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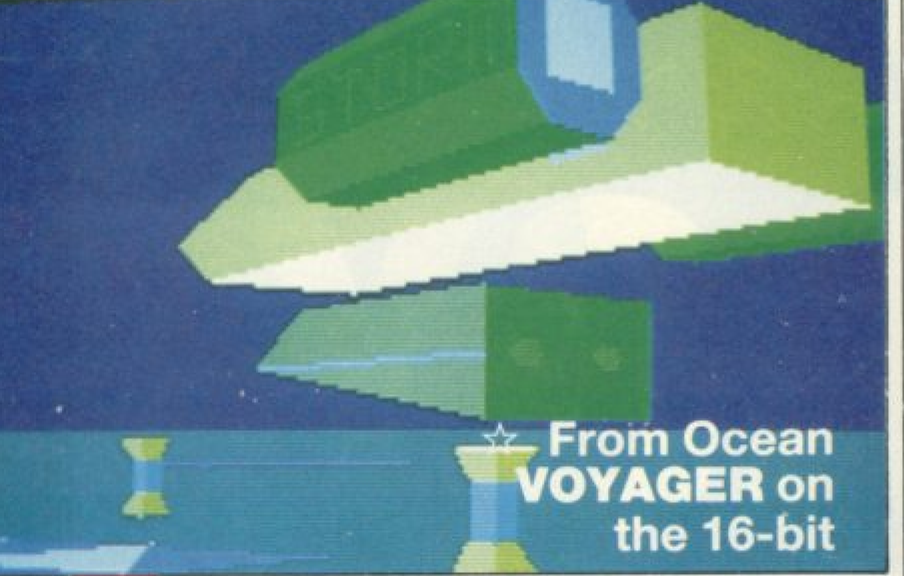

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The Games machine

It's a whopper! 111 Reviews 72 products

THIS ISSUE .

REGULARS



From Ocean VOYAGER on the 16-bit

FEATURES

DIAL 0898 555080 FOR A CHANCE TO WIN COPIES OF STORMLORD FROM HEWSON

See page 15 for details

WIN!

A HELICOPTER FLIGHT OVER LONDON

Courtesy of The Sales Curve. Plus copies of *Silkworm* for the runners up

See page 27

WIN!

A KAYAK

Plus copies of the incredible *Typhoon Thomspon* from Broderbund for the runners up

See page 22

AND THERE'S MORE . . .

GRAPHICS

TGM looks at the latest art packages including Zoetrope and Deluxe Paint 3

MUSIC

TGM reports from the Frankfurt music fair

JEZ SAN

A first time look at the amazing vector graphics of F117A Agressor

PLAYING TIPS . . .

including a full map of Baal

TGM 019 goes on sale from May 18. Miss it and know what misery really means



AMIGA – WHAT A SHOW-OFF!

What answers the phone, tells you to do the washing up, and beats every other computer at 3-D animation? The Amiga, of course . . .

Marshal M Rosenthal reports on Amy's latest goodies the from AmiExpo, the major US Amiga fair.

Too much, too much! The Amiga isn't a computer – it's a swirling vortex shooting out endless creative software.

If you remember how Grandma used to nag you to do the right thing, you're ready to use *Nag Plus 3.0* from Gramma Software. *Nag* is a full-featured, hidden-in-the-background, multisorting datebook, calendar – and all-round reminder.

Its voice/sound effect alarms (nothing like an elephant's blare to get your attention) remind you of important events, while full information is displayed in configurable screens.

Once *Nag*'s reminded you of an important phone call, why not dial with your Amiga – using the Nomo add-on, also from Gramma? Because phones in the States beep at a different pitch every time you dial a different digit, the combination of Nomo and a simple phone-dialer program can do the work for you.

Then, of course, you have to pick up the handset for normal voice transmission . . . unless you want the computer to speak, too. For incoming calls can interact with the Amiga's voice output to give messages.

Nomo connects via RCA plugs to the sound output of the Amiga and into the telephone line, and it retails for only $25 (about £14.50). It's not much use in Britain at the moment, because UK phones don't use the tone system, but they're on the way.

A matter of fax

Phones are rapidly being replaced by fax machines for many messages, and they've become the rage in the States – unfortunately one of the results is that there's now another source of junk mail from. But leave it to computers to find an extra use for faxes – sending a video image over a standard telephone line.

Videofax, by Interactive Picture Systems, captures a video image and can compress over 1,000 frames on one hard disk, without losing any image quality. A video camera interfaces with special hardware and software to produce the image, and then automatic processing enables an ordinary fax machine to send a broadcast-quality, high-resolution *colour* image across the country – or the world – in about three minutes.

It's displayed on a monitor on the other end, just as you sent it. And all this is done over regular phone lines – no need here for the new technology of ISDN (TGM**015**).

Money and music

Finally, to keep track of those phone bills you'll need Gold Disk's *Desktop Budget*. It's is a quick'n'clean method of keeping a business running – doing books and storing data.

UK import seems likely, considering the popularity of other Gold Disk products like *ComicSetter* (TGM**014**).

And when the phone breaks down and the burdens of high finance become too much to shoulder, just settle down to some soothing music – and check out *Czar*.

This graph-oriented synthesizer program allows full control over any Casio tone generator or keyboard deck that interfaces with MIDI. There are too many features to go into here, but American Amiga-owners were oohing and aahing at how easy it is to create waveform patterns and sound shapes with just the mouse, and how notes and music become graphics which can then be altered.

CONTACTS: *Czar* is available from Creative Computing – South Bay, *4453 Redondo Beach Blvd, Lawndale, CA 90260, USA.*

Desktop Budget is produced by Gold Disk, *PO Box 789, Streetsville, Mississauga, ON, Canada L5M 2C2*, but may well be available from UK mail-order dealers.

And both *Nag Plus* and Nomo come from Gramma Software, 17730 15th Avenue NE, Suite 223, Seattle, Washington 98155, USA.

A PC in your Amiga?

Among the hot Amiga topics Stateside is Commodore's not-yet-released 2286 Bridgeboard, which fits a fully functioning 80286 PC AT, 'the latest and the fastest yet', into the Amiga. Besides one AT and two XT expansion slots, the board drives CGA colour and MDA mono PC windows simultaneously with Amiga graphics, all on an Amiga monitor.

The board autoconfigures, of course, and has autoboot as well. And new *Janus 2.0* software lets the bridgeboard share a hard disk, RAM, floppy drives and mouse with the Amiga.

The price has yet to be set, though all signs indicate a retail of about

The ultimate disk

Roll over, floppies, and tell the hard disks the news . . . among the most exciting high-tech peripherals around is the Discus Rewritable 5.25-inch Optical Disk System (from AGA).

Yes, a laser reads and writes to the disk, and that means being able to store the equivalent of 100 books (five encyclopaedias, say) on one hard-cased disk – roughly half a million pages of text!

And, unlike a CD-ROM, it can be erased and reused repeatedly.

All the glamour is in the execution; in use the system feels like a moderately fast hard drive. Discus is designed right now to work with expensive AT&T systems (though an Apple Macintosh version in the works), and the controller can also access floppy drives and CD-ROM.

The price is a bit steep at $4,500 (about £2,600) – but then so were the first personal computers when they appeared.

MUGging up

Shades, the multiuser adventure played for over 450,000 hours on Micronet, should soon be joined by Trash – another multiuser game (MUG) from the same pot.

For Shades developer Neil Newell has joined forces with programmer Matthew Ward and former Micronet supremo Mike Brown, to develop as many MUGs as they can handle.

Calling themselves Third Millennium Systems, they're using a special MUG development language called MUGICK.

And they'll also be looking at the gaming possibilities of new technology like ISDN (TGM015).



Pouring out MUGs: left to right, original Shades man Neil Newell, Mike Brown, and Trash developer Matthew Ward

Piracy: just say no!

A massive crackdown on piracy and more games under the Christmas tree are among the targets of the software world.

Those were decisions made at the Computer Arena conference in Majorca last month – the annual get-together of major figures in both software and hardware, run by TGM's publishers.

The assault on piracy, spearheaded by the Federation Against Software Theft and its Coordinator Bob Hay, is aimed not at making piracy more technically difficult but at convincing people it's wrong.

So slogans on packaging, a barrage of FAST leaflets, advertising in magazines and literature with Com-

modore computers will emphasise that copying software is illegal.

Cooperating in the project will be the new Entertainment Software Publishers Association (ESPA), a society composed of major software houses including US Gold, Ocean, Mirrorsoft and Virgin Mastertronic.

And the ESPA, chaired by eponymous Hewson boss Andrew Hewson, also hopes to increase publicity for games in newspapers and on TV – claiming this way 'it will be easier to persuade parents to buy software or hardware as Christmas presents'.

No word yet on a mailshot to Santa's elves, but we'll keep you up to date on both stories.

Altered Alton

There's no need to go helter-skelter if you're entering Audiogenic's £500 Alton Towers comp – for the closing date has been put back three months to June 30.

The comp, which can be entered by anyone who buys *Helter Skelter* on the ST or Amiga, is a challenge to design the best screen using the game's built-in designer section. The first prize is a weekend for two at the Alton Towers leisure park in Staffordshire, including hotel rooms and meals.

The decision to postpone the closing date came after delays in the release of *Helter Skelter*. Information on how to enter is included with every copy of the software.

Animals in computing

■1 Thalamus's mascot Rocky, commonly known as the Thalapuss (*Felix Fasoulix*). His natural habitat has long been the C64, but recent sightings have been made on the Spectrum and 16-bits.

■2 Activision's *Might & Magic II* horse (*Equus Mirabilis Fortis*). This large but gentle beast can be seen in all the environments of the PC/C64 RPG: forests, deserts, snowy wastes and urban areas. Surprisingly docile, it is easy to ride without prior acquaintance – just as *Might & Magic II* is ready to play whether or not you know the original *Might & Magic*.







■3 The ThetaComm Introvoice dog (*Canis Vocis*). A distant descendant of the creature seen for aeons on HMV records, this remarkable speaking breed will both listen and reply to you – like the PC voice-recognition/synthesis hardware supplied by ThetaComm for £395 upward from *FREEPOST, 38A Queens Road, East Grinstead, Sussex RH19 1BD* ☎ (0342) 325600.

■4 The Code Masters Hamsters (Rodenti Magistris Codis). Not animals but a supposedly existing band assembled to promote *Rock Star Ate My Hamster* (TGM**018**).



Telecomsoft goes up for sale

by Barnaby Page

Telecomsoft went on the auction block on the evening of February 22 – but not even staff know whether a new owner will make dramatic changes to the successful three-label software house. Telecomsoft publish Rainbird, Firebird and Silverbird.

Frequently-mentioned possible buyers include Mirrorsoft, Mediagenic and PC Engine manufacturers NEC. MicroProse, keen to expand dramatically in the next few years, also seems a likely candidate – and it certainly has a high regard for the company, having hired three key ex-Telecomsoft employees in recent months.

Mirrorsoft, ultimately under the control of acquisitive media tycoon Robert Maxwell, is already a major software house and would turn itself into a power of the Ocean/US Gold rank if it picked up Telecomsoft. But Marketing Manager Tom Watson told TGM 'I have absolutely no comment'.

Mediagenic, meanwhile, is known to have made a bid.

Rumours of a buy-out by NEC have been circulating for weeks, but it's difficult to see what the computers-to-cash-registers firm would gain from buying Telecomsoft – unless they're looking for a ready-made sales and marketing setup for their PC Engine.

Scarce truth

Indeed, Telecomsoft has been the subject of rumours for years. Mirrorsoft's Watson, who worked there one-and-a-half years ago, recalls that 'we were being closed down every day, we were being bought every day . . . only 1% [of the rumours] were true'.

The sale has apparently been planned by owner British Telecom (BT) for some time, but Telecomsoft only went on the open market after five months of negotiations over a management buy-out, led by General Manager Paula Byrne, failed.

BT's motive for selling Telecomsoft is probably that though the software house is highly esteemed and commercially successful, its £6 million turnover in 1987-88 is paltry beside BT's £10.1 thousand million in the same period.

BT, the nation's fourth-largest company, may have found that Telecomsoft – which does not fit into its main business of phone services – was more trouble than it was worth.

At press time, BT spokesmen would only confirm that Telecomsoft *is* up for sale, so – whatever the rumours – it's too early to start worrying about the possible effects on computer users.

Hot Toaster pops up

New Tek's booth at AmiExpo is always too crowded, with people chanting the same slogan over and over: 'Where's the Toaster?'

The Video Toaster, that is.

But the Toaster still hasn't been released; bits and pieces are seen, just enough to whet the appetite and make you bang the spoon against the plate in frustration. 'The delay is partly due to circumstances,' notes President Tim Jenison. 'Remember, the Toaster is a complicated beast – a genlok, frame buffer, and geometric engine rolled into one A2000 card.'

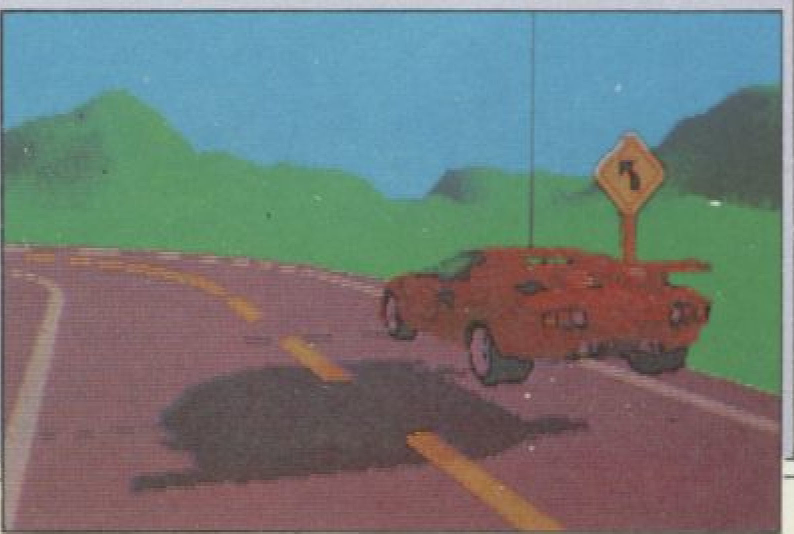
Now to the meat, er, make that the bread of the Toaster. Imagine you're watching a picture of a box on the Amiga as it soars gracefully around on the screen. There's a live, real-time video image in that box – an image that continues its movements within the box's confines.

Now take a cube – let it spin for you. Again, a face is superimposed within and will rotate as the cube does (shades of the Konix Multi-System demo, TGM**016**?).

The Toaster allows for this using 'time warping', and switching techniques built into the system, like fades and soft edge matteing. It's an amazing device, and one that could only be done on an Amiga – which allows for video interfacing at high speed with no loss of quality. The retail price should be about $1,500 (£870).

And there's also the tentatively-named *Toaster 3D*. Like the other Toaster, *3D* is still in development. Software master Alan Hastings – creator of Aegis's *Animator* program many moons ago – is a bit reticent to give details, but one look at the videotape says it all. Solid 3-D imaging, moving at impressive speeds, speaks louder than words here. This is one of *the* hot programs to watch for.

Hassle New Tek at *115 West Crane Street, Topeka, Kansas 66603, USA.*





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DATABASE EXHIBITIONS

TGM PREVIEWS

Sports onscreen

Fed up with Frank Bruno? Enervated by Emlyn Hughes? If you're a sports-sim fan, try CDS's latest in the ever-growing collection of ball'n'table games – Steve Davis World Snooker. 16-bit-only, it's pitched as an upgrade from the 8-bit Steve Davis Snooker, and should be available now for ST and Amiga (£19.99).

Features include the now-standard zoom, adjustable shot strength, and digitised music (in this case TV snooker theme Dragnet). Four different games are included: British and American pool, billiards, and carom (a kind of billiards without pockets).

A PC version is expected eventually.

Meanwhile, for the more strategically minded, new horse-racing games are available for the ST and CPC. A Day At The Races, a mouse-controlled ST package from US-based Team Software, supports up to 15 players. And it features animated races as well as a large menu-driven management section: buy and sell horses, choose jockeys, place bets, print out the results for up to 500 different horses and 50 jockeys. It's available from Team Software (address below) for $39.95 (about £23 at press time).

And D&H Games have released The National for the CPC (464 and 6128), following a successful Spectrum version. Again putting you in charge of a stable of racers, it takes you through a season including major races like the Derby and Grand National. At £9.99, it should be in many software shops now.

Team Software: PO Box 7332, Washington, DC 20044, USA ☎ (from UK) 010 1 703 533-2132 or 010 1 603 679-1211.


Steve Davis: putting on his crown again for CDS

■ *Software for a profitable day at the races: see Toolbox in Back Bytes, page 82*

Up to par

Play that stroke of genius in Accolade's *Mean-18*, a leading American golf game now available in the UK through MGA Softcat. On PC, Amiga, Apple IIGS or Mac, four players can compete against each other or try to beat the par, and when you've exhausted the possibilities just turn to the four *Famous Courses* disks.

These recreate the terrain of courses like Las Colinas, Muirfield and Inverness Club, and are fully compatible with *Mean-18*.

Mean-18 itself costs £29.95 on all the formats except PC (£19.95), while the *Famous Courses* disks range from £14.95 to £24.95.

Nicklaus

MGA Softcat also have two other Accolade golfing games, including ST and C64 packages. *Jack Nicklaus Golf* is available for C64 (£24.95), Amiga, PC and Apple IIGS (all £29.95), while for the faint at heart *Mini-Putt* is out for C64, ST, PC and Apple IIGS (all £29.95).

MGA Softcat: *Pear Tree, Appledore, Kent TN26 2AR* ☎ (0233) 83571.

Creatures feature in Ocean Nightbreed game

Ocean came out a surprise winner in the bidding for the *Nightbreed* licence – and now they're hoping that the game-of-the-movie, to be released around Christmas, will match the success of previous licences like *RoboCop* and *Platoon*.

The programmers of this multisection arcade adventure will likely be Impact Software, who recently scored with *Run The Gauntlet* for the same software house.

The movie, which recently started shooting, is based on horror master Clive Barker's novel *Cabal* (Barker on software: TGM**018**). But 'it's not exactly a horror movie,' says Ocean Software Manager Gary Bracey. 'They're going for a 15 certificate. It's more a creature movie. And they're just creatures, not gory . . . there's going to be more creatures in this than any other movie.'

Barker is also writing and directing the film, his first since *Hellraiser*. So, with the game's development team allowed full access to the film sets, Ocean should be able to get their *Nightbreed* close to the author's intended atmosphere.

Says Bracey: 'We are getting every cooperation from the film company, we're there practically weekly, we've access to storyboards.'

For their part, the film-makers – and particularly special-effects team Image Animation – are 'having direct input' into the game, says Bracey. 'They're actually involved in the storyboarding of


Author Clive Barker: raising hell again

Not going for Gold

US Gold had been expected to win the licence after long negotiations, but clearly Ocean – recently noted for their film-based games – offered the movie company more, whether in money or in guaranteed experience.

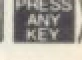
Ocean Software Manager Gary Bracey puts it down to 'our record with movie treatments . . . I think we've got the strongest stable of movie releases of any [software] company'.

Grave matter

Ocean may be pitching Nightbreed as 'creature' not 'horror', but for US-based Pedersen Systems there's only one way to go – straight down the grave.

For their new game Zombies: Undead Or Alive! (PC, C64, Apple II) features 'fast action arcade horror', 'lifelike horror scenes' and – the ears boggle – 'realistic sound effects'.

Squelch along with 'the first 3-D horror game' from Pedersen Systems, 2 N. Highway Avenue, Nanuet, NY 10954, USA ☎ 010 1 914 623-2245.



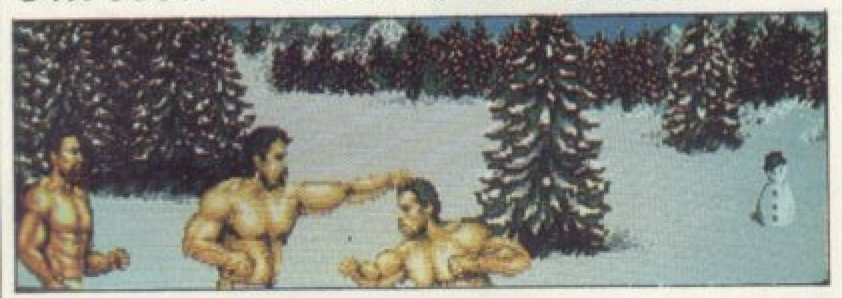

Ocean's Gary Bracey: working closely with film team

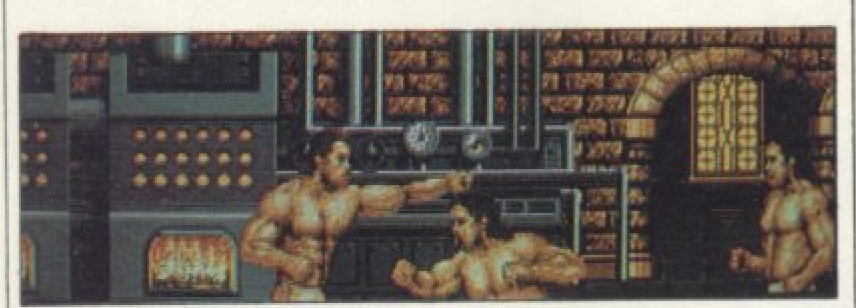
the game – but they wouldn't let us write the movie!'

Look for Ocean's game on ST, Amiga, PC, C64, CPC and Spectrum this autumn. Meanwhile, the *Nightbreed* movie will debut in North America in August, and presumably hit Britain at much the same time as the computer version.

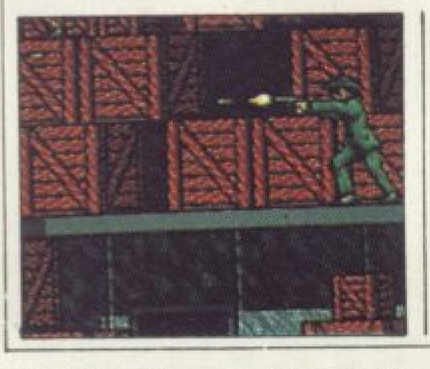
Red Heat

Out soon – Ocean's movie licence


Red Heat starts in the Russian snow, where the player – Arnie Schwarzenegger in the film – is tracking down a drug dealer. Flex those muscles and move outside, away from the warmth and into the desolate wastes – for hand-to-hand combat.

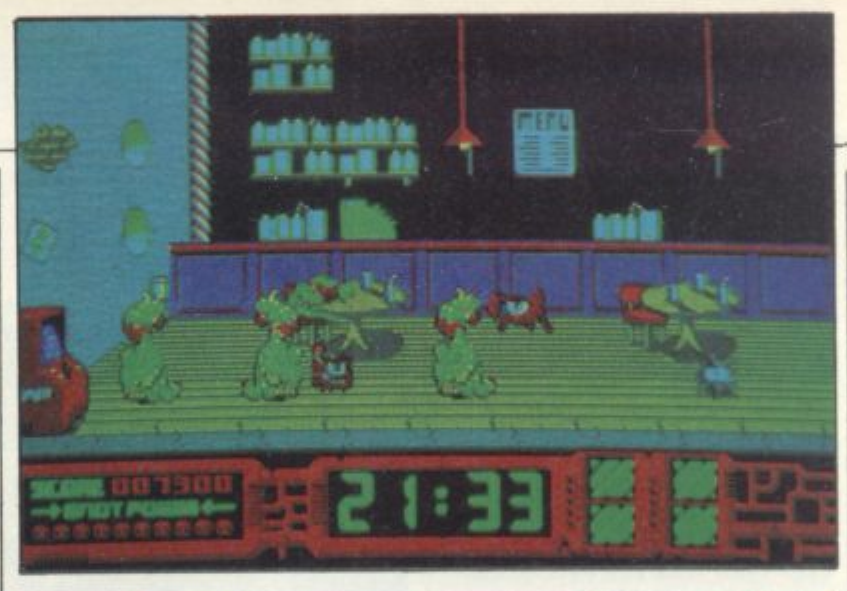


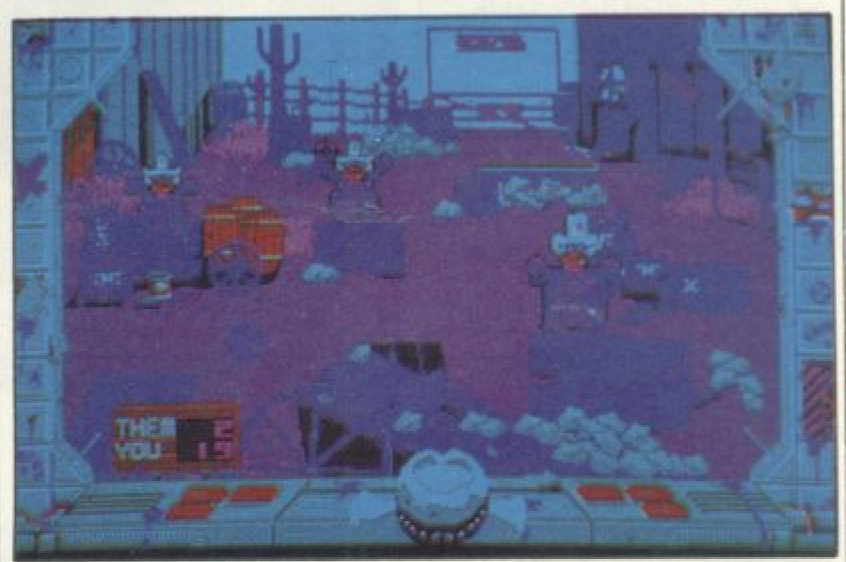




Described by programmer Jonathan Smith as a Green Beret-style scroller, Red Heat has four levels of combat in America and the Soviet Union.

ST and Amiga versions are planned (ST screens are shown here, but because it's a direct port, Amiga will be very similar), along with Spectrum, C64 and CPC. Programmers Special FX, previously responsible for Batman, were hoping to complete work in mid-April, so expect release soon.



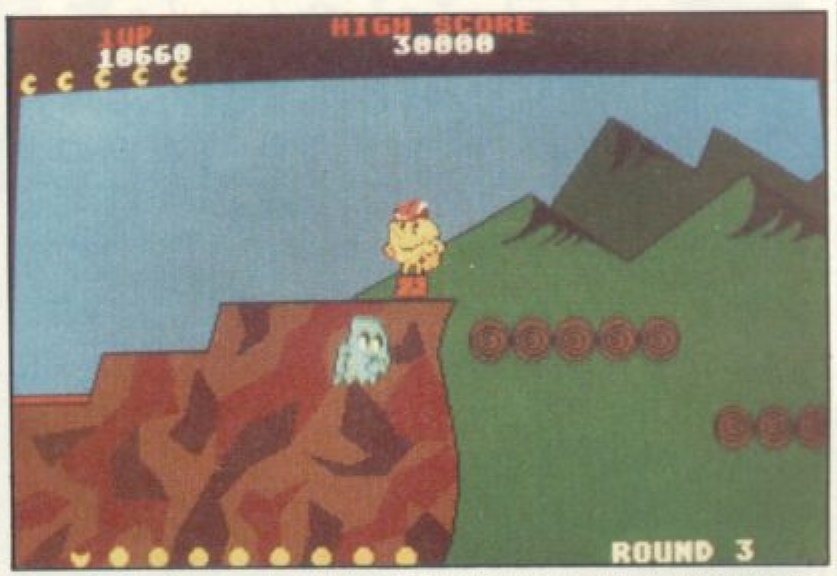


Yeeuch!

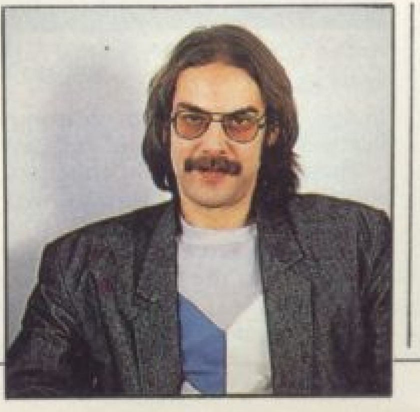
It's simply disgusting. Revolting TV character Gilbert the Alien (from Get Fresh) is spilling his gooey self over all major formats this month in Gilbert – Escape From Drill.

The Again Again game sees Gilbert going in search of his personal Holy Grail . . . a dismantled toilet. And to find it he'll have to beat a time limit in five different arcade sections, including Snotfight at the OK Corral, shown here.

Gross out on ST, Amiga, Spectrum, C64 and CPC.



Pac again: Grandslam must reckon that if it's worth doing once, it's worth doing twice. For pill-popping Pac-Man is back in Pac-Land, this time with limbs. (ST screen).



Divine music

Top micro composer Rob Hubbard has done the impossible – improved on Creation! For after seeing Electronic Arts's godly game *Populous* (TGM**017**), Hubbard agreed to produce an introductory soundtrack.

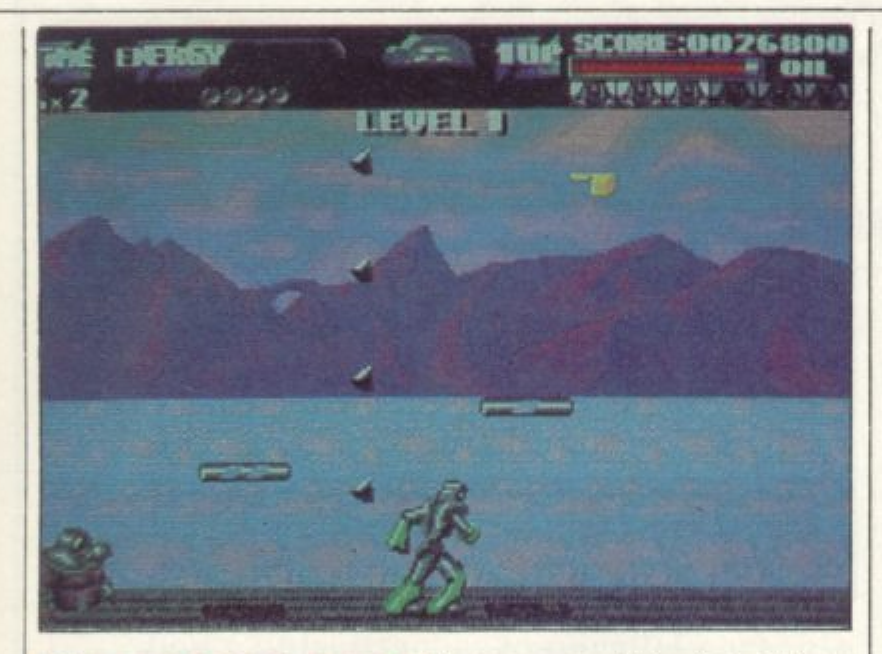
Now working at Electronic Arts's California HQ Hubbard has used medieval church music as the basis for his atmospheric score.

Bomber: 'Test Drive of the skies'

That's how Vector Grafix boss John Lewis describes their latest 3-D project – a simulation of 14 different state-of-the-art planes, based on a real-life bombing competition!

And it also marks the beginning of Vector Grafix's four-game deal with Activision – previously the development team wrote Star Wars and The Empire Strikes Back for Domark.

Put Bomber on your shopping list: it's scheduled for all major formats including PC. But first take a look at what you're going to fly . . . and wait for up-to-date news on the project.

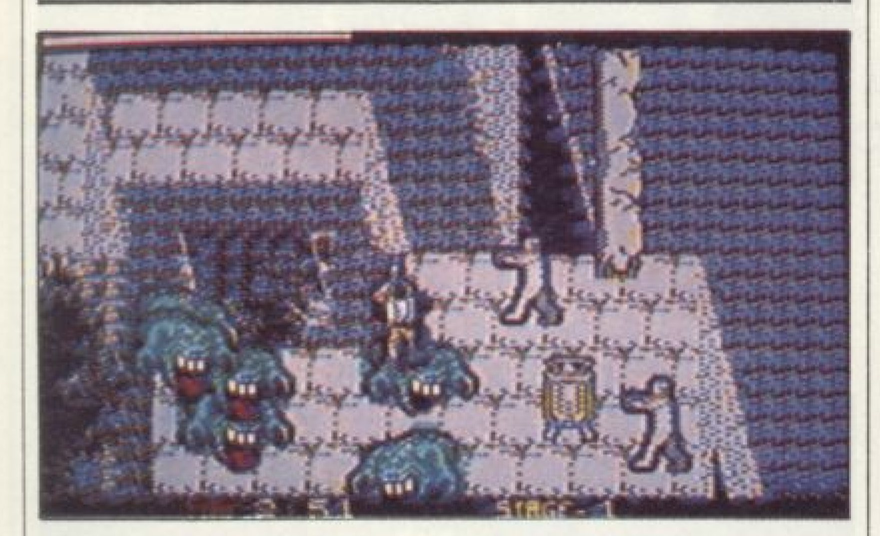




From France with death: Bio Challenge is the first game from Paris-based Delphine Software to hit these shores, thanks to Palace.

Just because you're a robot doesn't mean you're immortal, as six monster-packed levels of parallax scrolling will soon prove. And each kind of enemy needs a different kind of killing.

Programmed by the men behind Elite's Space Harrier, Bio Challenge features an amazing 160 onscreen colours on the ST – and more on the Amiga. Expect release very soon.



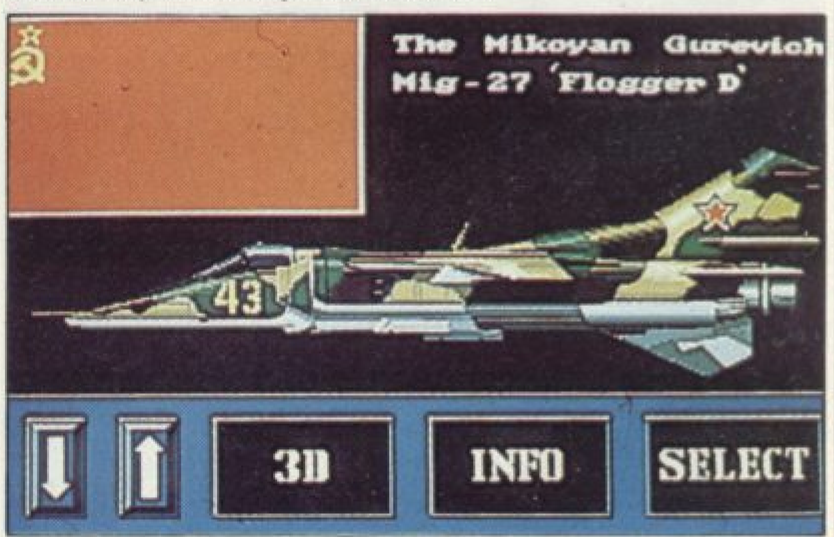
Boost for 8-bit Atari: Virgin Mastertronic are releasing the classic Ghostbusters for this neglected machine



Dubbed the 'Wild Weasel', this F-4 Phantom is one of 14 planes in Bomber described by Vector Grafix's Andy Craven as 'the most exciting modern aircraft, those with the multirole capability: air-air and air-ground'.



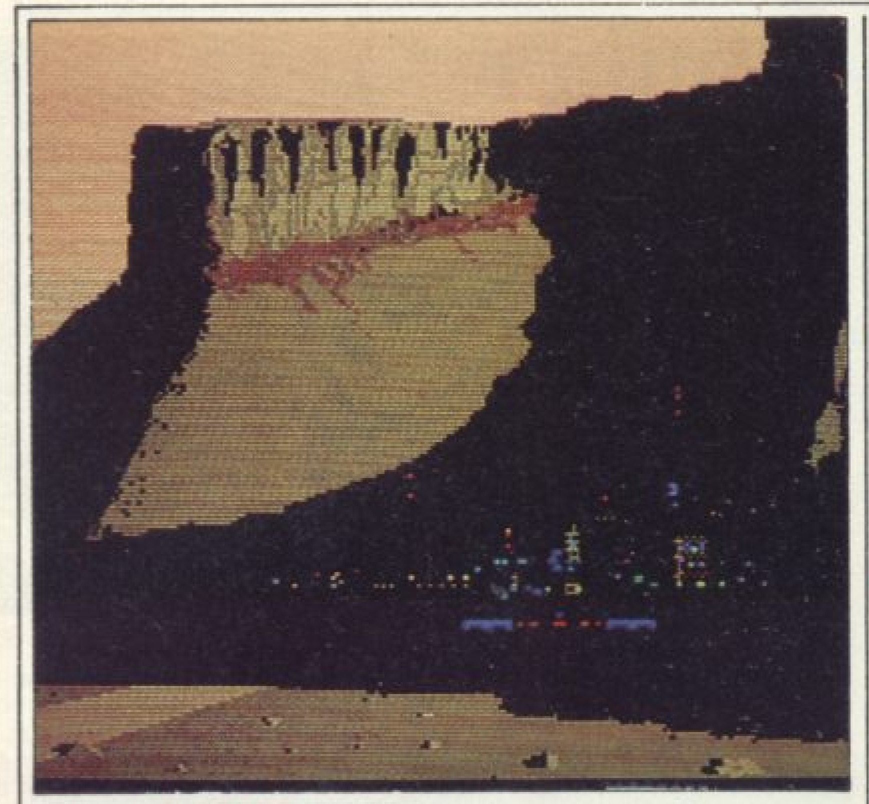
Armed and ready: F-15 Strike Eagle in Activision's Bomber

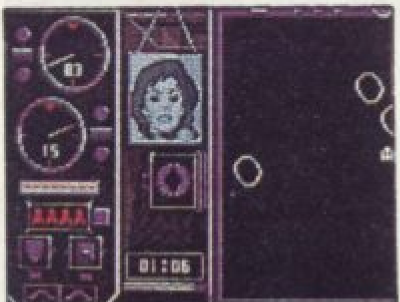


Simulated Soviets: Bomber features a rare chance to fly a plane under the hammer-and-sickle flag. Test the MiG-27 Flogger against its NATO rivals.

A HUD act to follow: Bomber's representation of the F-15 Strike Eagle

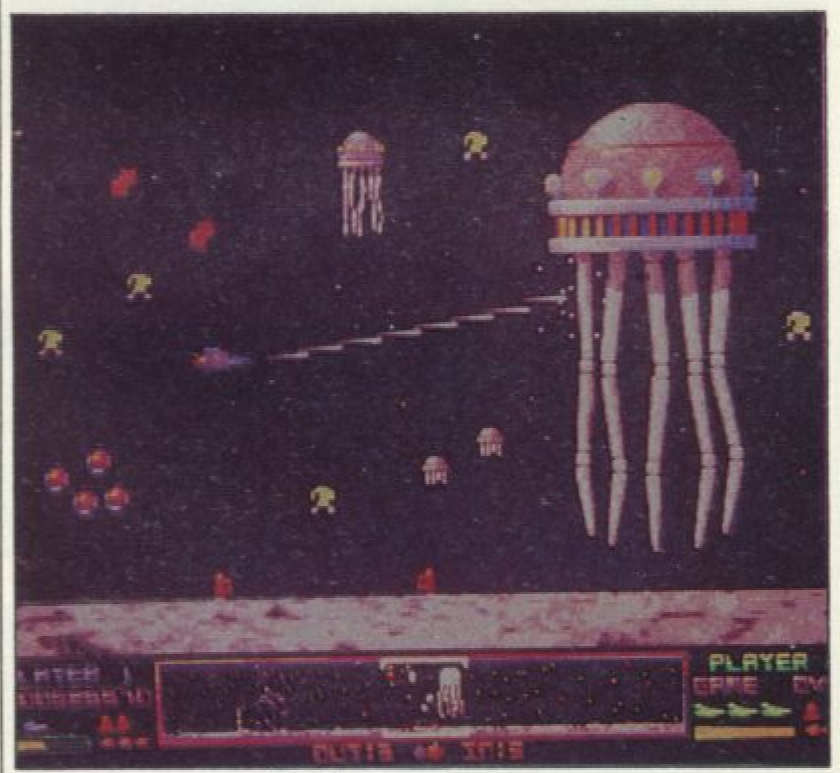






Mars patrol

16-bit gamers can go to the red planet with Arcana – they'll soon release Mars Cops on Amiga and then ST. Gasp at the amazing screens of Mars's hostile landscape as you descend, and thrill to the fast action as you defend the now-colonised planet from the instrument panel of this patrol vessel.



Visions of deepest space

Visionary Technologies may not be a familiar name, but you know their creations – *Sword Of Sodan* and *Dragon's Lair*. Now they've decided to produce under their own label, and the first game is *Datastorm*, on the Amiga.

We won't try to fool you – this *Defender*-like game is tough! Your spaceship is buffeted from all sides by multiple aliens, space mines, flying whatsits.

As usual, you've a radar screen, laser guns, and smart bombs. But it's the sheer multitude of stuff that blows you away (or perhaps it was that enemy missile?). Animation is as fast and furious as the action, with really great sound effects.

Nobody can say that the Amiga isn't put through its paces here, and though there's no word on UK availability yet, the success of *Sword Of Sodan* surely means someone will import it.

Marshal M Rosenthal in New York



It may never supplant cricket as our national game, but beach volleyball is big in the States – so big that Electronic Arts have chosen it for their next sports sim. Out now on PC, Kings Of The Beach features a 15-match season in different locations, for one or two players. Look out for the 'Pixel-Mate pin-ups', too . . . and don't forget your suntan lotion.

Shinobi on all formats!



Sega's smash Shinobi is set to beat its way from arcades to micros, with Virgin Mastertronic planning release on all 16-bit and 8-bit formats later this year. Developed by The Sales Curve and mostly programmed by Binary Design, Shinobi has 19 martial-arts sections with some massive opponents – including a helicopterload of ninjas!

C64 owners may get a slightly different game style, as their format is being programmed by Random Access, the Silkworm team.



Oh no . . . as if arcade adventures weren't hard enough already, Microdeal come up with Airball on the Amiga. Take the form of a rubber ball, search through over 300 Head Over Heels-style rooms for the spellbook which will turn you back into a human, try not to burst on the spikes, and don't forget to recharge yourself at air pumps – deflating could be fatal.



Dial A Prize!

Phone-in fun with TGM!

Bzzzzt! Klikk, klikkk, wrirrrrr, brrr brrr CLICK! Yes, the TGM phone-in lines are ready and waiting with **all-new** information. Just pick up your phone and dial the Hotline number to hear a fact-packed two minutes of information detailing release dates for the **top games** for April and May – or call the News Update line to find out what secrets and scandals the TGM team have unearthed this month.

And of course there's a massive series of prizes too. This month we're offering you the chance to win one of **50** copies of Hewson's **Stormlord**!

Every month we'll be adding more and more to this unique service – coming soon we'll have a Billboard line with hot news delivered direct to you, leading up to **full** story in the following issue of TGM.







Information – online!

Printed here is the number which connects you direct to the TGM Hotline service. And we've got 160 lines, open 24-hours a day, so don't worry about the service being engaged. Ring this number and listen for just two minutes as we tell you what games are coming out, and when!

Hotline
0898 555 080

For the information you're getting, the Hotline is cheap. The phone call will cost you 25p per minute when you call during off-peak time (Mon-Fri 6pm-8am, Saturdays, Sundays and Bank Holidays), or 38p per minute during standard and peak times (8am-6pm Mon-Fri).

Or grab the latest news on what's happening in software by ringing TGM's News Update line. We can get hot stuff on the News Update service quicker than *any* magazine can get it in print – so don't lose touch, use News Update!

News Update
0898 555 088

Now smile and dial . . .

WIN STORMLORD
50 COPIES OF HEWSON'S SMASH HIT UP FOR GRABS

Blast your way through space with Hewson's classic shooter **Stormlord** on Spectrum, C64, Amstrad CPC, ST and Amiga. It's the dead brilliant game written by Raff Cecco, of Cybernoid fame – endless(ish) screens of action packed with gorgeous graphics and sexy sound. (Even if you don't win you can get Stormlord in the shops now, or directly from Hewson.)

Here's your chance to win one of the 50 copies Hewson are offering in the Hotline quiz!

HOW TO ENTER

Dial the number (prod, prod) and listen carefully to the three questions. Fill in your answers in the boxes provided and complete the tiebreaking sentence given to you over the phone.

When you've finished the questions, fill in your name, address, and computer format, and send it all to: **STORMLORD COMPETITION, TGM, PO Box 10, Ludlow, Shropshire SY8 1DB**. All entries must reach us by May 18 1989 and, as always, remember the competition rules on the contents page!

The TGM Hotline is produced by TGM Magazines Ltd in conjunction with Chatterbox Ltd.

1

2

3

Complete the sentence given to you over the phone in no more than 20 words:

Name ....

Address ....

....

.... Postcode ....

Computer format ....

My choice of game ....

MOVING PICTURE MAGIC

Amiga animation becomes a reality this spring with the arrival of *Deluxe Paint III* and *Zoetrope* – powerful software for high-powered creation.

For TGM's in-depth report, **Robin Candy** tested the pair . . . and they both came out winners.



Deluxe Paint III's ***move requester in action: just four frames from a 25-frame animation. The background remains static while the TGM logo zooms into the foreground, in cinema fashion.***

We'd all thought Amiga art utilities had gone as far as they could. *Deluxe Paint II*, *Photon Paint* and *Deluxe Photolab* all featured exceptionally powerful commands which pushed the Amiga to its limits. But now the latest wave of art utilities have branched off into a new area – animation.

Users of Electronic Arts's *Deluxe* series of art utilities will be instantly at home with *Deluxe Paint III*. The main tools menu, complete with spray can, fill and shape tools, is identical to that in *Deluxe Paint* and *Deluxe Paint II*. It's only when you look at the other menus behind the title bar, and the tool-modification windows, that the differences between *Deluxe Paint III* and its predecessors become apparent.

There are four new fill types – tint, brush, wrap and halfbrite – as well as the old favourites, solid, gradient and perspective. And colours can be created two ways: either by defining the red, green and blue (RGB) components of each colour or the hue, saturation and value (HSV) levels.

When a tint operation is performed, the hue and saturation levels of the current background colour are replaced by those of the current fill colour, while the value level remains unchanged. *Deluxe Paint III* then calculates the RGB value of this colour and fills the area with the closest-matching colour from its palette. So the tint depends on the colours available in the current palette.

A brush fill uses the current custom brush and resizes it to fit the fill area. Wrap is used to give the illusion of wrapping the brush around a 3-D object, by adjusting the size and shape of the brush to the horizontal and vertical lengths of the fill area. Finally, halfbrite only works when in extra-halfbrite mode – it replaces the colour in the fill area with one half as bright.

The perspective commands of the earlier *Deluxe Paint II* are among its most powerful features. A custom brush can be rotated through x, y and z coordinates to occupy a new plane – very useful when trying to create 3-D

Doriath – *the name comes from a Tolkien story – was drawn in* Deluxe Paint III*'s extra-halfbrite mode, making extensive use of the airbrush facility*

effects.

But though the commands are powerful enough, the manual leaves a lot to be desired. Thankfully that has been rectified with *Deluxe Paint III*. The manual includes detailed (and understandable) instructions along with a tutorial to demonstrate the potential of the perspective commands.

Other new additions include overscan painting (allowing you to paint on an overscan screen) and extra-halfbrite, doubling the size of the palette to a maximum of 64 colours.

Here, the palette is split into two banks of 32 colours. The first is user-defined, while the second repeats the colours of the first but displayed at half their brightness.

However, if you already own a reasonable art utility these improvements alone do not justify £79.99. It's the animation commands which make *Deluxe Paint III* special.

They wuz framed

The illusion of motion is achieved by creating a series of pictures, or 'frames', that differ slightly from each other. When these are displayed rapidly one after another, animation is created.

Drawing each frame individually can be a long and laborious process, so *Deluxe Paint III* includes commands to make this process faster and easier.

One of the utility's unique features is animpainting. This is a very quick



PRESS ANY KEY

method of creating an animation, and when it's combined with other commands such as an animated brush the results are even more complex.

The first step is to set the number of frames you wish to paint across. As you move the mouse across the screen, one copy of the current brush is pasted onto each frame, following the movements of the mouse.

When the sequence is played back, the brush moves across the screen, mimicking the movements of the mouse.

An animated brush is simple to create. Just create an animation using one of the other animation commands, or by painting on each frame individually. Then use the ANIMATED BRUSH command to pick the animation up. You can now use it as a normal brush, but as you paint the brush cycles through its animation.



The famous King Tut picture, used for years to promote Deluxe Paint, *undergoes some radical changes with* Deluxe Paint III*'s SMEAR command*



It's so easy: Deluxe Paint III*'s move requester. Just type in a few numbers, and in no time your brush is swirling around the screen.*

Altered states: this time King Tut is subjected to Deluxe Paint III *brush-manipulation commands, using the FLIP, BEND, HALVE and PERSPECTIVE options*

The usefulness of this can easily be shown. If, for example, you wanted to animate a figure walking across the screen, you'd first draw the various movements of the figure's legs, arms etc on successive frames.

Then pick these up as an animated brush, and use the ANIMPAINTING command to move the figure across the screen. When the animation is played back, the figure will appear to walk smoothly across the screen.

The move requester automatically moves or rotates a brush through three dimensions across a series of frames. Brushes can be made to shoot off into the distance, rotate, expand or perform a combination of all three.

The results look complex, but in fact they're very easy to do. All you have to do is specify the distance, direction and angle at which the brush is to move, preview it to check that everything is okay, and hey presto – instant animation.

The main drawback of the animation commands is memory. *Deluxe Paint III* requires a minimum of 1Mb RAM to operate, and ideally 2Mb RAM for better results. Saving long animations will also require high-capacity disks, of course.

The higher the resolution the less memory there is for animation, and more complex animations will also require more memory.

Zoetrope

Antic's *Zoetrope* is the much-improved Amiga conversion of *Cyber Paint*, previously available on the ST only. It's primarily concerned with animation, so the painting side of things has been neglected: the basic graphics tools such as airbrush, zoom and shapes have been included, but there are no innovations.

Customised brushes can be grabbed, rotated and resized, but once again there's nothing you wouldn't expect from an average utility. Artists used to other utilities supporting 64-colour or even 4,096-colour modes will be disappointed to find that *Zoetrope* operates only in low-resolution 32-colour mode.

But what *Zoetrope* lacks in these departments, it more than makes up for in animation.

All animations are controlled from the onscreen playback bar, which is small enough not to obscure great portions of your work. It's similar to the controls on a VCR: you can play the animation forwards or backwards, or fast forward/rewind to a particular frame. The package also includes an additional program to run your animations independently of *Zoetrope*.

When you're animating an object such as a moving figure, there are only slight differences between the frames, so it wastes time having to redraw the figure for each frame. It's far quicker if you only have to draw the slight differ-

Deluxe Paint III*'s palette selector uses both HSV and RGB methods to create instant colour*



Upgrade offer

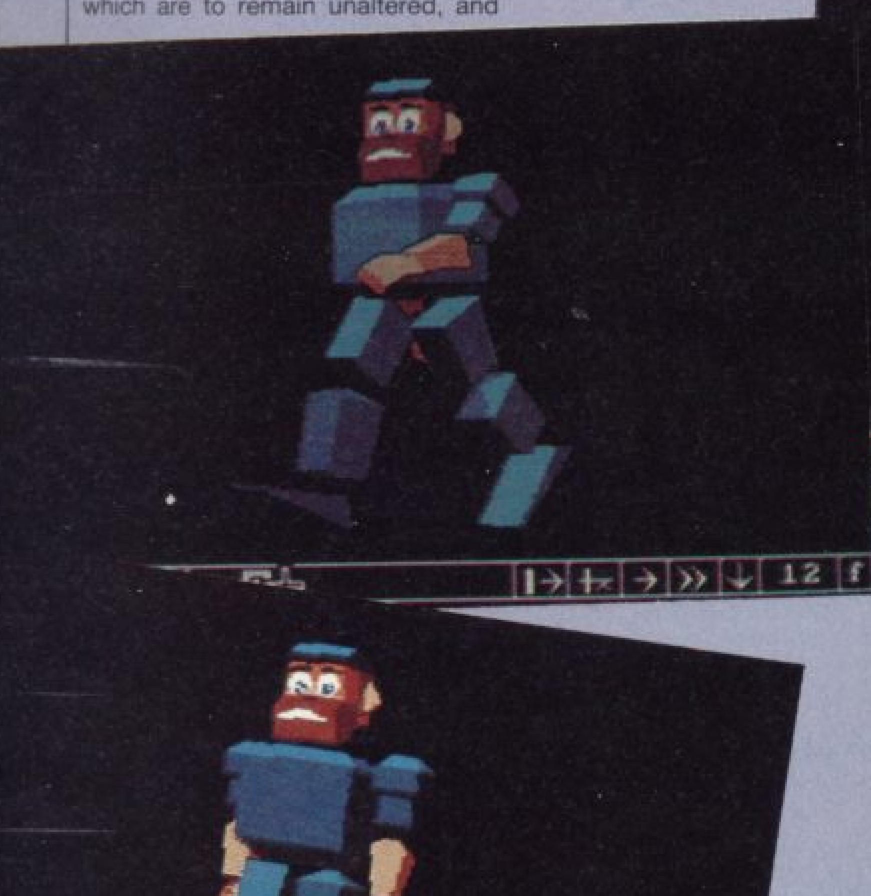
Owners of *Deluxe Paint* and *Deluxe Paint II* can purchase *Deluxe Paint III* at a reduced price.

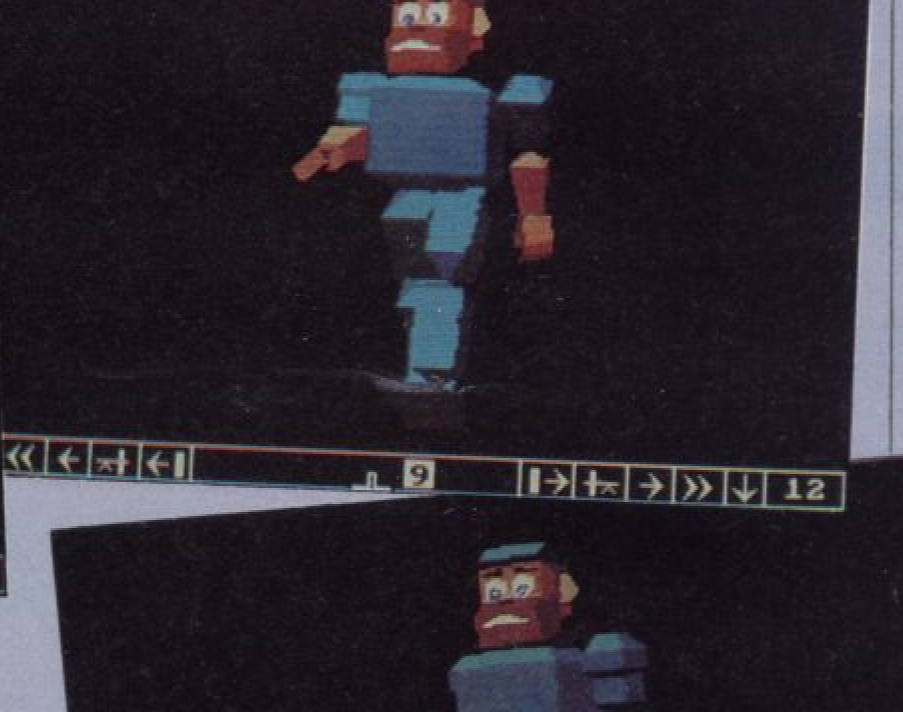
Just send in proof of purchase – such as a page from the manual, or the command summary sheet – to Electronic Arts and a cheap *Deluxe Paint III* can be yours.

The upgrade costs £55 for *Deluxe Paint* owners and £35 for *Deluxe Paint II* owners. Find Electronic Arts's address in the item headed Where To Find 'Em.

ences – and that's exactly how *Zoetrope* works.

Zoetrope features blueing commands which enable you to do this (blueing is a printing term). Each frame (except the first) displays the contents of the previous frame, highlighted by the first colour in the palette. All the animator has to do is to trace over those parts of the previous frame which are to remain unaltered, and





Remember Dire Straits's Money For Nothing *video? Here are five frames from one of* Zoetrope*'s demonstration animations.*

then add any alterations.

This package's most powerful feature is the APM (Antic Pixel Mover) effects menu. Just like *Deluxe Paint III*'s move requester, the APM allows you to create stunning animations in minutes.

And the list of available options is impressive. With TURN, you control how your brush rotates, including the centre of rotation, the number of rotations and the axis. SIZE allows you to shrink or expand a brush to a specific centre or vanishing point. MOVE moves a brush a specified distance along x, y and z coordinates. And PATH allows you to draw the path which you wish the brush to move along.

Tweening

'Tweening' is a term invented in the early days of animation. A master animator would draw the key movements of an animation, and get an apprentice to fill in the missing frames.

So *Zoetrope* also features a TWEEN command to help speed up the animation process. TWEEN works in conjunction with the APM effects menu and brush-manipulation commands, to produce a series of frames each featuring the brush in a new position. You set the starting and ending positions; TWEEN then spreads the movement across all the frames.

Zoetrope is a daunting package to use. Unlike many art packages it isn't instantly 'friendly': when it's loaded you're presented with a screen which, except for the command cursor, is blank. However, the manual has a series of tutorials to illustrate the functions of each command, and with a little practice most of it soon becomes easy to use.

AND THE WINNER IS . . .

Deluxe Paint III vs Zoetrope

Both *Deluxe Paint III* and *Zoetrope* are contenders for the coveted title of best Amiga art package. On the animation front Zoetrope is the winner: the blueing commands are a real plus when drawing an animation frame by frame, while the APM effects menu is great for creating animated title sequences.

But *Zoetrope* is limited in other areas where *Deluxe Paint III* excels. It only operates in low-resolution 32 colour mode – hardly exploiting the Amiga's potential. *Deluxe Paint III* caters for a variety of resolutions and palette sizes, making it more flexible for screen designing – but this all eats up memory.

And indeed, memory is one area where *both* packages are limited, *Deluxe Paint III* more so than *Zoetrope*. Both need a minimum of 1Mb RAM to operate, and ideally 2Mb or more to create animations that last any decent length.

Some skill required

It's also worth pointing out that though both packages feature powerful commands, the quality of animations depends on the abilities of the user. Complex animations still involve a fair amount of drawing, and neither of the programs will design brushes for you. This is where *Deluxe Paint III* scores points; the paint section is far superior to *Zoetrope*'s.

It takes time to get good at animation. If you've had little previous experience, *Deluxe Paint III* is the better package – not only do you get a good animation program, but also a fantastic art program. The manual is clear and the program surprisingly easy to use.

Zoetrope is really for those who are already familiar with animation techniques, or trust their artistic abilities enough not to need a good art utility.

Where to find 'em

Deluxe Paint III Electronic Arts, *Langley Business Centre, 11-49 Station Rd, Langley, near Slough, Berkshire SL3 8YN* ☎ (0753) 49442. £79.99.

Zoetrope ISM, *Grove House, Ventnor Road, Apse Heath, Isle of Wight PO36 0JT* ☎ **(0983) 864674. £99.95.**

PRESS ANY KEY

THE GREATEST SHOW ON EARTH

You won't find bearded ladies or **elephants** on the Amiga screen – but there's no reason you shouldn't make some, with the vast variety of high-tech tools available.

From two major New York shows, Marshal M Rosenthal reports on the magnificent caged beasts of Amiga graphics.

It's like a circus – bright swirling lights and people staring with open mouths that ooh and aah. But it's not a trapeze artist or a clown that's causing all the excitement; it's the New York Computer Graphics Show. Here can be found not only the most stunning graphics and animations, but also the newest technologies to create them.

Everywhere you look are graphics, animations, complex imaging workstations – with companies touting their latest efforts in 3-D imaging. One of the most impressive is an Amiga running *Sculpt Animate 4D*, from Byte by Byte.

In the latest upgrade of this popular ray-tracing package, new features have been added that really make the program fly – features like grids, assignable hot keys, metal texturing, motion blur, an animation-scripting language, and (whew) improved rendering speed.



Light touch: **Sculpt Animate 4D** ***from Byte by Byte simulates ray-tracing for realistic, quickly-produced animations. And it's available in London, too.***

But why did they do it when *Sculpt Animate* already had people standing up to cheer? Floyd Wright, head of Bytes Video Production, puts it thus: 'People weren't happy with food for the Gods, they had to have dessert too.'

Scanline rendering is a new process that allows you to shade 3-D images and give them the glow of reality. It isn't true ray-tracing, but speed is the advantage: animations can be rendered in hours, not days or weeks.

The program can also take full advantage of 68010/20/30 upgrade boards, improving on the performance of the Amiga's standard Motorola 68000 processor, and maths coprocessing chips [a 400-page manual is an essential part of the package].

There are also ready-made 'parts' available, including 3-D fonts, and the components necessary to assemble your own Orbiter Space Station – at least on the computer tabletop.

Amiga grows up

Graphics shows also bring people together, and in New York designers and hardware makers had a chance to talk one to one. Roman Ormandy of Octree Software, New York, was one of those who stopped to chat.

'You get a chance to stretch your mind, see what others are doing,' he notes. 'This kind of interaction can only prove helpful – from this comes new developments, and better ways to improve systems. It's good to know that the 'little' Amiga is a fully-fledged member of this ongoing process.'

Ormandy's Amiga program, *Caligari*, is a high-end 3-D animation program for professionals, and an excellent example of just how far an Amiga can go. Animation director/animator Isauro Del La Rosa is one of those using *Caligari*: 'The interface is so simple that it only took me an hour to make a 3-D object,' he remarks.

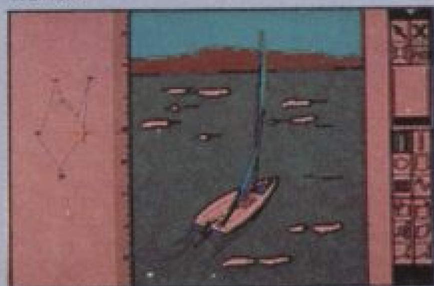
Del La Rosa is really sold on this product, despite the US price of $1,999 (about £1,160 at press time). 'It's really amazing, he proclaims. 'You can design a wireframe animation within hours, do it all and play it back in almost no time at all. For a designer, it's a dream program of 3-D graphics.'



Look at the detail: this frame comes from a **Caligari** ***animation. 'It's a dream program,' says one professional animator of Octree Software's package.***

Cell-animation

There was animation aplenty at AmiExpo, the recent New York Amiga show, too (see this month's news for more on the show). Visionary Technologies had *C.A.S.T.* – the system used to create the animation of *Dragon's Lair*. This is a traditional cell-animator's workstation transferred to the Amiga, and geared to the professional.



Sailing into high-res: a picture created with Gold Disk's **Pro Draw**

Another cell-animation tool is *Lightbox*, from R&DL Productions: it's a nifty professional package based on its namesake, the cell-animator's light source.

Of course it adds the power of the Amiga, but you still do all the art yourself (or import from other IFF files) before saving it to disk as a file that can be animated using page-flipping programs.

What sets *Lightbox* apart is that it is *not* an animation program, but a user-controlled alternative to doing cell drawings on paper. RAM holds as many working frames as possible – yet all is automatically saved to disk for safety. Add to that a a 'flip rate' of 30 images per second and 'invisible' reference lines to help you place each cell correctly – all in a simple, elegant package.

For MIDI users, Mindware have *Pagesync*. The bottom line is that with *Pagesync*, signals from a MIDI instrument can make the Amiga start/stop/reverse an animation.

Conversely, an animation could be the controller for a MIDI performance. This really opens the door wide to all kinds of musical possibilities, as support is also included for two other Mindware products: *Pageflipper Plus F/X* and *PageRender 3D*.

And finally, another way to control animations: Elan's *Performer*. This works with all types of files – ANIM, RIFF, HAM, IFF, RGB. Full control is given over speed, number of frames to play, and forward/reverse. Multitask with music and sound software – even pull out, change any image and then put it back in the file. Precise real-time control is the ticket here.

Drawing on experience

Be happy with HAM – try *Digipaint 3.0*, from New Tek.

Expanding on the capabilities of the first HAM-mode drawing program, it lets you take advantage of overscan, three forms of texture mapping, and high-speed anti-aliasing (a technique that removes those infernal 'jaggies' that result when you draw circles and angles).

· Meanwhile, Gold Disk's *Pro Draw* creates brilliantly pure colour art. Built on the same interface as *Professional Page*, the program uses structured graphics in high-res mode, and high-res results are the norm on any printer. Anybody serious about drawing on the Amiga will find this the one to get.

Anims on tape

Still with animation, but back at the New York Computer Graphics Show, how do we get those great graphics on the screen?

Mission Graphics's solution is a reasonably-priced transfer of anima-

tions to video tape, giving the same high quality as professional studios. The firm's Vince Bilotta explains: 'First off, you have to understand that you can't just use any VCR if you want a continuous and professional-looking image.

'Now let's consider disk space,' Vince continues. 'A 30-second animation can easily require 90Mb to contain it. Even a hard disk fills up mighty quick, and not everybody can afford 8Mb of RAM to play with. So what we've done is combine the Amiga with a Panasonic 7500A.

'It's probably the least expensive way to go totally professional: a Super VHS deck for high-quality reproductions, with single-frame recording, a rock-steady transport mechanism, and a host of other professional controls. The price isn't bad, either, a retail of $5,000 [£2,900].

'It may sound a bit expensive,' notes Vince, 'but consider what it costs to go into a studio situation for a tape transfer. Forget it – they charge a fortune! We realise that most people can't go out and buy all their own equipment, so we do it for them, by taking their creations off a disk they send in. This eliminates many problems, and the end result is a video tape of as high quality as the image that's on it.'

Well, it's a bit weird looking at a large blue metal box and handles, and realizing that it's an Amiga that's been rack-mounted by Mission Graphics for easy internal access and portability. But as long as it works . . .

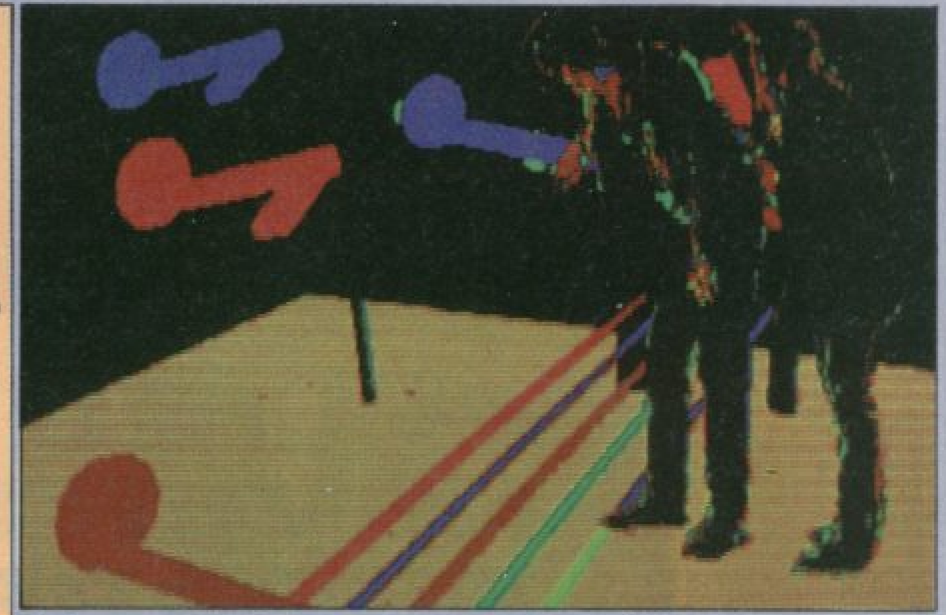
Colour seps in Professional Page

You often find magazine publishers at these shows – showing their wares. But at AmiExpo there was a new advance in high-tech Amiga publishing.

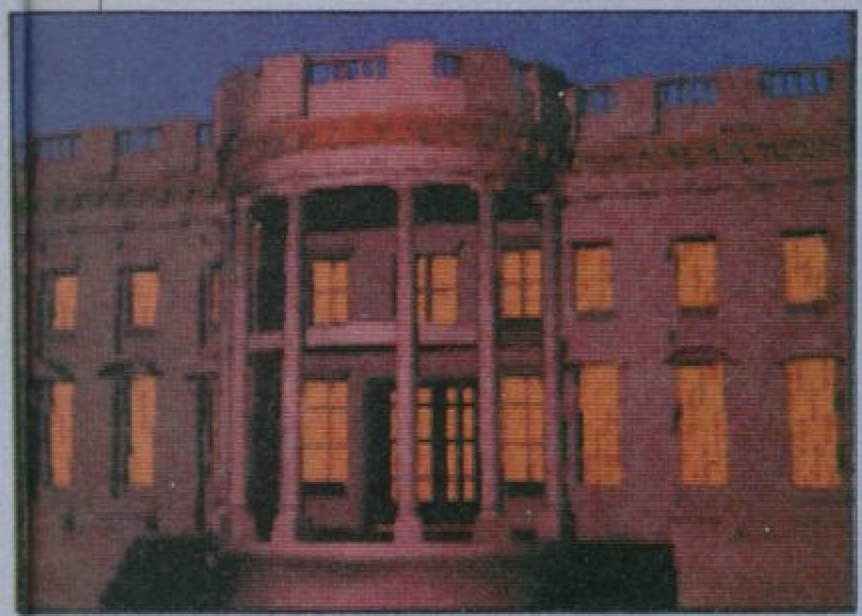
ASDG's *Resep* enables 24-bit colour separations to be inserted into *Professional Page*, generating 16,000,000 (yep – 16 million) colours!

But there's a catch, of course: you have to scan the original image using a JX-300 or JX-450 colour scanner from Sharp, and these babies don't come cheap.

Professional Scanlab is ASDG's program to fire up the scanner with the Amiga – for amazing results. HAM images become used as proofs, and saved as colour separations. *Resep* then replaces them in their Postscript file with a 24-bit image that can be used to produce the colour films required for printing.



Playing on: another Amiga screen by Steve Speers. With this kind of quality, the Amiga should soon replace the Apple Mac as the commercial artist's machine of choice. Next stop DTP?



Magnificent mansion: Steve Speers's Amiga pic is typical of the machine's rapidly-increasing graphics applications

Huge palette

Elsewhere on the hardware front, Artist Realvision 24 from Control Systems took many a person's eyes right out of their sockets. Imagine being able to combine high-resolution graphics with a lifelike rendering of *16 million* colours!

This real-time colour controller displays a bright, flicker-free picture – a double buffering system enables you to digitise into one buffer while displaying the other. Both NTSC and PAL are supported, and a fully-integrated video genlok combines live images with computer graphics. All this and a screen resolution of 1024 x 482 . . .

Amiga CAD

Progressive Peripherals's *UltraCAD* is a high-end 3-D system with an 'intuitive user interface' (ie it's easy to operate) and rapid rendering. A separate paste-up program supports many kinds of printers, and allows the finished image to be output over several pages if desired.

A conversion utility bridges the gap to other CAD (computer-aided design) programs to make for file compatibility, and even lets you design additional fonts.

Still, you need a way to get those ideas onto the computer screen. Drawing with a joystick has never been easy, and many find using a mouse sheer agony. Anakin Research's *Easyl* pad (think of 'easel') may be the solution. Unlike other pads, *Easyl* is pressure-sensitive – it doesn't rely on a stylus to transmit information to the screen.

The 8.5-inch-by-12-inch working area responds to pressure, whether from a lead pencil or a blunt spoon (not recommended). And the Amiga version (A1000/A500/A2000) even lets you continue to use the mouse to select from menus and the like.

Installation is simple. An interface box attaches to the expansion port on the A500 or A1000's side (with a pass-through for further use), while the A2000 takes an internal card. The pad then connects to the interface/slot with a wired plug (which can be removed when storing the pad, if space is a problem).

Easyl can also be configured for either left-handed or right-handed use, and there are membrane panels that simulate mouse buttons. A drawing button is depressed to tell the pad to 'draw', just like using a mouse – but this can be reversed as well, in which case pressing and holding the button stops drawing.

A special painting program designed for *Easyl* increases the communication between the board and the computer, giving better quality. The program works in all resolutions and contains most of the features you'd expect in a paint program today. Animators aren't forgotten either – registration pegs can be attached so images placed down will be in the same place each time.

The PC version of *Easyl* works in a similar way, but here the card that goes into one of the expansion slots has a pleasant surprise: it includes a standard RS-232C serial port. This means that a serial mouse can be used, just like its Amiga brother.

GEM and *Windows* graphic environments are supported, and of course a wide variety of software packages. *Easyl* works with all the PC/XT/AT line.

The carnival atmosphere continues – in fact it would take a power shut-down to stop the flood of graphics, animations, and hardware. The technology keeps improving, breaking new ground. Computers are number crunchers – machines that can do amazing things only because they're so dumb and people so smart.

■ *Marshai M Rosenthal is TGM's US correspondent.*

Artist Realvision 24 Control Systems, *2675 Patton Rd, St Paul, Minnesota 5513, USA*
Caligari Octree Software, *311 West 43rd St, suite 904, New York, NY 10036, USA*
C.A.S.T. Visionary Design Technologies, *45 Whitehorn Crescent, Willowdale, ON, Canada M2J 3BI*
Easyl Anakin Research, *100 Westmore Drive, Unit 11C, Rexdale, ON, Canada M9V 5C3*
Lightbox R&DL Productions, *11-24 46th Avenue 2A, Long Island City, NY 11101, USA*
Mission Graphics *433 East 6th St, New York, NY 10009*
Nikon Film Scanner LS-3500 Nikon Electronic Image Engineering Division, *623 Stewart Ave, Garden City, NY 11530, USA*
Pagesync Mindware International, *230 Bayview Drive, suite 1, Barrie, ON, Canada L4N 4Y8*
Performer Elan Design, *PO Box 31725, San Francisco, CA 94131, USA*
Pro Draw Gold Disk, *PO Box 789, Streetsville, Mississauga, ON, Canada L5M 2C2*
Professional Scanlab/Resep ASDG, *925 Stewart St, Madison, Wisconsin 53713, USA*
Sculpt Animate 4D Byte by Byte, *Arboretum Plaza II, 9442 Capitol of Texas Highway North, suite 150, Austin, TX 78759.* **Available in the UK from** Software Circus, *The Plaza on Oxford Street, 120 Oxford Street, London W1N 9DP* ☎ (01) 436-2811.
UltraCAD Progressive Peripherals & Software, *464 Kalamath St, Denver, Colorado 80204, USA*
Videofax Interactive Picture Systems, *42 East 23rd St, New York, NY 10010, USA*
Video Toaster/Toaster 3D/Digipaint 3.0 New Tek, *115 West Crane St, Topeka, Kansas 66603, USA*

PRICES AND ORDERS: Prices given in Marshal's report are in US dollars, roughly translated into sterling. Bear in mind that if the products are released here, or imported by mail-order firms, they may be more expensive. And if ordering goods from the States, you'll probably have to pay postage.

Hardware imported from the US will require a power adapter to work in Britain; hardware *and* software will work only with monitors, not TVs.

Finally, if you're one of TGM's overseas readers, remember that US rules forbid the export of some computer technology to some non-NATO countries.

SEE THE

LIKE YOU'VE NEVER SEEN IT BEFORE! *WIN THIS SUPER 'TYPHOON THOMPSON' KAYAK FROM BRODERBUND*

SEA

K	A	Y	A	K	A	Y	A	K
A	A	K	A	A	A	Y	A	A
Y	K	Y	A	Y	K	Y	A	Y
A	A	A	A	A	A	K	A	A
K	Y	A	Y	K	Y	Y	A	K
Y	A	A	K	A	A	Y	A	K
K	K	A	K	A	K	K	A	A

Special prize for programmers

Anyone can enter Broderbund's Typhoon Thompson comp, but to keep the technical types amused during a long wet spring TGM is offering an extra prize of £20 worth of software.

What we want is a program to solve the KAYAK word puzzle, in any reasonable language (no assembler or machine code, please). Get working on those arrays, and send a listing to TECHNICALLY THOMPSON COMP at the usual competition address.

No time limit on this one; the first working program in wins the prize, and gets printed in Back Bytes.

What's small, bright and zooms across the deep blue sea? Typhoon Thompson – and it could be you too, when you win this professional-style 3-metre Spirit 300 kayak from Broderbund. It's perfect for lakes, rivers, sea and even swimming pools – just row and go. And for runners-up there are five pairs of trendoid two-tone **cycling shorts**.

It's a prize and a half for a game and a half, the first title from American software house Broderbund to be released over here by Domark. As a Star Player, *Typhoon Thompson* scored a whopping 90% on the ST this issue (page 34). And it's *so* addictive and amusing – zipping over the water at breathtaking speed, searching the islands for sneaky sea sprites, and then playing a crazy, top-speed chase'n'catch game, all with incredible animation! You'll want to take it in the kayak with you . . .

Don't miss the boat

To win, find *all* the occurrences of the word KAYAK in this puzzle. The word can go up, down, left, right, or diagonal – and remember 'kayak' backwards spells 'kayak' too . . .

There's no need to send the actual puzzle in if you don't want to – just write the number of occurrences on a postcard or the back of a sealed envelope, add your name and address, and send it all to **TYPHOON THOMPSON'S KAYAK KOMP, TGM,** ***PO Box 10, Ludlow, Shropshire SY8 1DB*** to arrive by **May 18**. Usual rules as printed on the contents page apply.

Now, as *Typhoon Thompson*'s guardians say: bring us the postcard!



POWER TO THE PEOPLE

Don't **despair!** More **power** and better **presentation** were the buzz words at the world's biggest micro-music show – as the range of sophisticated software showed.

Graham Wayne reports with words and pictures from Frankfurt, West Germany.



The halls are filled with short German piano vendors talking with obsequious politeness to Italian organ vendors, whose beautiful wives are flirting with several Korean accordion manufacturers deceived by the nuances of Italo-Nipponese into believing they're making a sale.

Meanwhile, unbeknown to the middle-aged businessmen in blue suits, the newfangled music stuff you plug in the wall is hidden on two floors of a smaller hall across the way – though 'small' means a floor area merely equivalent to that of London's Olympia.

This is the Messehalle, on the outskirts of Frankfurt's concrete-hard centre, the site of the 1989 Musicmesse – the world's biggest exhibition of music equipment, ancient and modern-style.

It wasn't hard to find the right areas of the exhibition amid the vast complex of glass and steel; all one needed to do was follow the hordes of German leather-clad heavy-metal freaks, mostly guitarists and drummers judging from the coiffure and accessories, along the moving walkways as they flocked to study the vast array of guitars, amps and drums that permeated the show.

Virtually every kind of hardware was displayed, from lighting rigs and disk-based digital recording systems to flight cases, guitar bags, sticks and plectrums. Of course, there were plenty of keyboards, samplers and so on, round which were gathered the more moderately-dressed keyboardists, with Korg, Casio and Roland sporting impressive stands that, combined, equalled nearly half the space taken by Yamaha.

I had to look a little harder to find the MIDI and computer products; I guess I'm spoiled by shows where computers are the main item on the agenda, so it took time to see the silicon for the trees. Most good music-software companies were present, but there were a few interesting hardware items too.

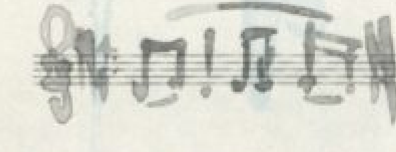
Digigram, a French company, were demonstrating the Midimic – a sleek, rather futuristic-looking microphone that converts audio signals into MIDI pitch and velocity information. It can also transpose the input if required, before transmitting the information on one of two channels.

Long-established manufacturers Schaller were marketing a MIDI conversion pickup and controller unit for saxes and clarinets, and there were several MIDI switchers, patch bays and instrument controllers for guitars, basses and drum pads.

Nearly all the computers were STs, not a surprising state of affairs considering the machine's pre-eminence in MIDI applications and its popularity in Germany. There was just a handful of PCs, and a few Amigas and Macs (though several more Apple machines were to be found interfacing with high-priced hardware).

And there were two general themes running through the show: the need for more processing power, and the redesign of user interfaces.

"Are software houses really serving the user's best interests?"



What you see . . .

All the recent products I've seen are providing several alternative ways of viewing data within one system. There are no real innovations, only the imitation of other interfaces from rival products.

Yet everybody has to have piano-roll scrolling, it seems. Many have windows providing standard music notation. Windows to draw in controller data and so on are becoming passé; score-writing is the latest rage.

From manuscript to micro: at Frankfurt's giant music fair, 'conventional' instruments were overshadowed by ever more powerful computer systems

The result of this imitation? All the systems get to be mighty similar. Exhibitors at Frankfurt were showing very powerful, capable software, but I wonder how buyers are going to be able to make a selection, with so much to understand about the finer aspects of sequencer operation and so little to choose between the facilities.

But one of the criteria to consider is processing power. For some time, it's been clear that overheads on the ST's Motorola 68000 chip will have to be cut down if it's to do more work quicker, since the processor cannot be upgraded or accelerated like a PC's or Mac's.

There are several areas where improvements need to be made. Screen-handling in *GEM* is notoriously slow. Languages like C, though portable, cannot achieve the performance of machine code. And, for those with enough memory, the need to have more than one program running at once becomes urgent the first time you want to edit your Roland MT32 or Yamaha TX7 while a sequencer is loaded into the computer.

At the Musicmesse, several companies were demonstrating solutions to this problem.



Multitasking

On the chic Steinberg stand, their new operating system M.ROS was announced across three formats – Mac, PC and ST. The M.ROS system is properly multitasking, a term that suffers a fair bit of liberal interpretation these days, if not abuse.

In other words, M.ROS runs different applications concurrently – if you enter an editor program in memory, the sequencer also in memory continues to function. And it also acts as a network controller whereby, Steinberg claim, several STs can be synchronised together and *any one of them* can command all the others.

While such a facility does lead to rather grandiose speculations about vast numbers of computers, the multitasking operating system makes real-time sound editing possible while the device plays its sequence.

Sample or effects editors can control their devices, while mixer-automation or score-transcription programs output their output, if you see what I mean (all this being dependent on Atari, or some other company, releasing an 8Mb ST, of course – or a user linking two 4Mb STs, if you go with the Steinberg view).

And M.ROS also controls access to the 68000 processor, ensuring that a clock-synchronised program such as a sequencer will have priority over other programs running at the same time.

So far, Steinberg have announced four products that run under the new system. The first is a sequencer called *Cubit*, featuring what they call 'visual song processing'.

This amounts to resizable windows, click-and-point editing and drawing in data with the mouse; hardly new concepts, if the truth be known. But carping aside, this is a very powerful successor to the same company's *Pro 24* (the Amiga version of which has just been released, by the way), featuring high resolution, 16 'arrange windows' each with 64 independent tracks, MIDI-simulated effects (delay and echo) and score-editing of sequences, plus a separate drum-editing window with individual quantise on each of the 64 drum tracks.

The demonstrator told me the sequencer will also sync to input from the instrument currently being played, but I'm not sure how this could work; it seems an enormous feat to expect of a computer. And I was surprised to discover that the sequencer will only record on four MIDI channels at once, which isn't really up to the mark.

Cubit should hit the streets at a hefty £500, but there isn't anything radically new about the sequencer – it's just a well-conceived amalgamation of virtues from several systems, even down to the Mac font used in the screen display. Funny business, that, though it's nice to see the new Steinberg range appearing on the Mac and PC too . . .



M.ROS sampling

Also on show were the latest versions of the well-known Steinberg lines, including the *M1 Synthworks* editor. Rather more upmarket is Steinberg's *Avalon* sample-processing software on the ST: this is a 16-bit-resolution editing librarian and conversion facility. *Avalon* offers 40 seconds of storage on a 4Mb Mega ST4 at a 44.1kHz sampling rate, time and frequency domain editing with FFT, resynthesis, sample conversion between different samplers and sample rates, plus networking between samplers to transfer samples easily.

Avalon runs under M.ROS and will





Smooth operators: Steinberg had four products using their new operating system M.ROS. The Cubit sequencer is an upgraded Pro 24, while Avalon offers powerful sample-processing

operate with an optional hardware board that replays samples at 12-bit resolution (even if they're held in the ST at 16-bit), and has an AES/EBU interface for direct digital data transfer.

Last but not least, Steinberg had the *Mimix* mixer-automation system, a hardware-and-software combination that also runs under M.ROS. I see racks of STs filling the studio, piles of dead mice in one corner . . .

Steinberg apart, there was little new. Hybrid Arts were showing the *Genedit* generic editor, which allows users to design their own editors using graphics tools and Systems-Exclusive assignments to cope with the growing number of MIDI-programmable devices.

They were also showing the 'final, official versions' of their four sequencers, for which no further upgrades are planned. New to the range is *Editrack*, a revised version of their 60-track sequencer which generates and reads MIDI clock and pointers in software. The *ADAP* disk-based recording system was also on show for those with understanding bank managers.

And Hybrid Arts, like Steinberg, are developing their own operating system, called *Chaos* – there are few details yet.

Also working on an operating system are Dr. T, who call theirs Supergem. Part of this can be seen in *Tiger*, a *GEM*-style interface for the *KCS* programs which finally replaces the CLI environment they originally offered for reasons of speed. The trade-off now seems to be made against user-friendliness, but *Tiger* appears considerably faster than *GEM*.

Such problems do not trouble the Mac fraternity, however, and Passport's *Mastertracks Pro version 3* – soon on all 16-bits – now features 32 MIDI channels via printer and modem ports, plus extensively improved SMPTE control aimed at those synchronising to picture. The latest version, fairly bug-free, is already available for the Mac, with ST, Amiga, PC and Apple II versions due within a year.

US company Sonus were showing version 2 of *Masterscore*, which is much improved by the combination of sequencing and editing in one program. *Superscore* is also revised, and offers useful functions like suppressing unwanted rests which may occur when sequences are converted.

Putting on a brave show were new British developers The Digital Muse, yet another company who found it necessary to write their own operating system. They were demonstrating a new sequencer, *Virtuoso* – a fast, 100%-assembler program that they intend to expand by adding programs like score-writing according to demand.

But that's enough of the ST. Believe it or not, there were other computers at the show, though I'm sorry to say the 8-bits seemed virtually extinct; the only one was the C64, for which German company Geerdes make an extensive range of MIDI software, including an M1 editor just released. Unfortunately, they told me they don't have a UK distributor at present, which is a shame.

The machine I really expected to see in some strength was the PC – but I was disappointed. Still, the nicest bit of kit I saw was a PC product, admittedly priced beyond reasonable means. I'm referring to the *Erato* score-writing and publishing system, which comes complete with a dedicated *Quantel*-type graphics tablet and a truly wonderful gas plasma screen, a snip at $4,000 (about £2,300 – just the screen, that is).

So that was Frankfurt: a formidable amount of equipment in a forbidding environment. My overall impression was one of consolidation, of various manufacturers trying to come up with some combination of facilities that will give them a competitive edge in the market.

More power, more channels, more tracks and higher clock resolutions were the first order of the day, with variety in user interfaces coming a close second.

But I wonder if the user's best interests are really being served. So much money has to be invested in these state-of-the-art packages that it's difficult to make important choices, given the appalling quality of most demonstrations in shops.

Still, there is one benefit to those of more modest means and aspirations: as companies develop new programs, the obsolete code from earlier products often finds its way back onto the streets, repackaged at half the price. And there are always the interesting little independent developers, with a trick or two up their sleeves to rattle the cages of the big boys. I remain optimistic.

■ *Graham Wayne, a former Development Manager for Rainbird and Firebird, now runs a dubbing studio and writes for such magazines as Sound On Sound and CD Review.*

■ Who to call

Steinberg's M.ROS should be relatively easy to find – most major music-tech stores carry Steinberg products. If you're having trouble, try Evenlode Soundworks, *The Studio, Church Street, Stonesfield, Oxford OX7 2PS.*

For Dr. T, Passport and Hybrid products, try Chips Computer Centre, who also run a mail-order service: Data Direct, *53 Rugby Road, Worthing, West Sussex BN11 5NB* ☎ (0903) 700804.

The other products mentioned should be available from specialist retailers, but if in difficulties write to TGM's Information Desk.

***Born British: The Digital Muse, a new UK firm, developed their own operating system for an ambitious product line called* Virtuoso**

THE SKY'S THE LIMIT!

● WIN A HELICOPTER FLIGHT and ● MEET THE SILKWORM TEAM – thanks to ● THE SALES CURVE

The sky's the limit when you're a new software house – like **The Sales Curve**. They've recently signed major deals with a series of coin-op producers to release five major conversions . . . of *Silkworm*, *Gemini Wing*, *Ninja Warriors*, Taito's *Continental Circus* and Sega's classic *Shinobi*.

And to mark the first of these releases – *Silkworm*, the two-player horizontal shoot-'em-up which received a smart 83%/86% last issue – The Sales Curve are offering a prize that's really not pie in the sky. Just by answering the four questions, you could **win**:

- **A helicopter flight over London**
- **A visit to programmers Random Access**
- **An arcade orgy on the machines The Sales Curve are converting**
- **Copies of Silkworm AND the next four Sales Curve titles as they appear, on your format!**

And **ten runners-up** will also receive copies of *Silkworm* and the next four coin-op conversions from The Sales Curve.

To enter, just answer the four questions on a postcard or the back of a sealed envelope, scribble on your name and computer, and send the whole lot to: **SILKWORM IN THE SKY COMP, TGM, *PO Box 10, Ludlow, Shropshire SY8 1DB*** to arrive by **May 18**. As always, competition rules as printed on the contents page are final – unless you want to fall out of a 'copter.

1) Which of the following would you *not* control in *Silkworm*: *a)* a plane, *b)* a jeep, *c)* a tank?

2) Which of the following might you see in a flight over London: *a)* Stonehenge, *b)* St Paul's Cathedral, *c)* TGM headquarters?

3) Which well-known arcade firm produced the *Silkworm* coin-op that Random Access are converting for The Sales Curve?

4) **Tiebreaker.** The Sales Curve's big prize has four parts, lised in the text here; explain, in not more than 20 words, which you think is the best and why.

Silkworm, distributed by Virgin Mastertronic, should be out now on ST, Amiga, Spectrum, CPC and C64

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PRINTING DIRECTION	bi-directional, with optimised head movement
PRINT PITHES	10 char/in to 24/char/in programmable from line, and in SET-UP mode
LINE FEED	– 1/6in (4.23 mm), 1/8 (3.17 mm) and 7/72 in (2.4 mm); – n/216 in and n/72 in.
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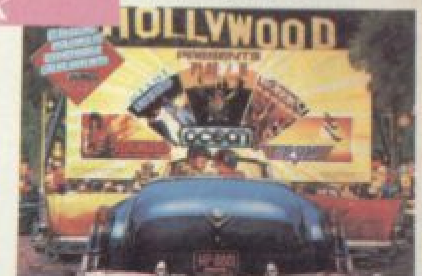
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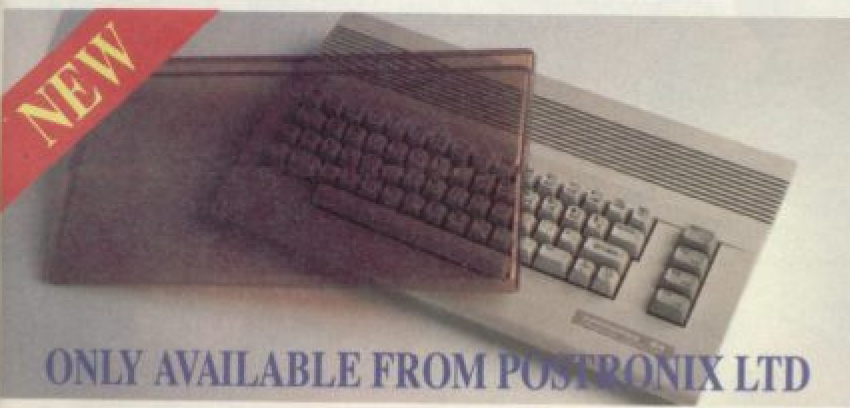
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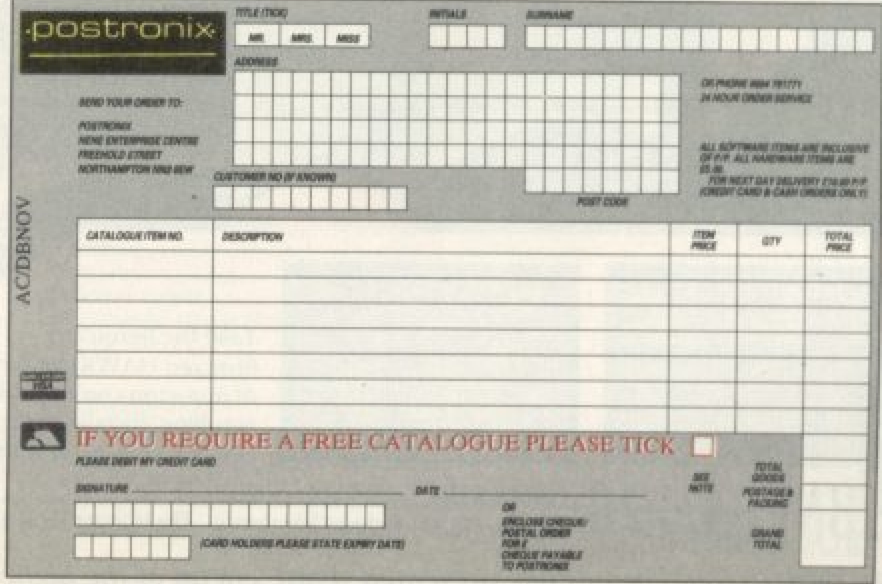


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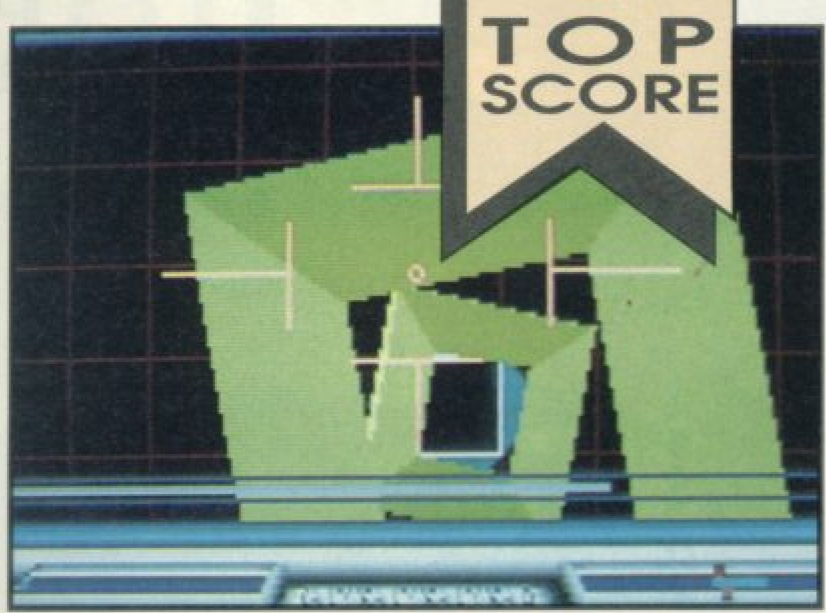

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The Games machine

It's a whopper! 111 Reviews *72 products*

32 ■ VOYAGER

Ocean have got themselves another winner — and a well deserved one. Voyager marks the first in what Ocean is hoping to be a long line of top-notch games, exclusive to the 16-bit machines. Jump in the 3-D tank and enter into battle on alien terrain!





34 ■ TYPHOON THOMPSON

Squeaky sound, tiny graphics — but hell, are they well animated. Domark's new deal with American software house Broderbund has found them a brilliantly addictive, simple, fun game: it's just like the good old days!

44 ■ VINDICATORS

Ten pages later and Domark have done it again! Hurrah! This time with the first Tengen licence — Vindicators. A fast and colourful game with you in control of a lethal tank with an obvious objective — blow the b******S up!

50 ■ BALLISTIX

From Psyclapse comes a future sports simulation — 50 different pitches for two players, the best way to play this version of death hockey, and 80 for a single player — it's a whole new ball game.

STAR UPDATES

AMIGA

AMSTRAD CPC

ATARI ST

COMMODORE 64/128

PC

SEGA

SPECTRUM

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Solid 3-D Tank Duel

VOYAGER

Ocean

Around the eternally beautiful ringed planet Saturn spin ten moons. Seemingly uninhabited, these worlds are in fact the home of the Roxiz empire which is preparing its conquest of the blue planet Earth.

Eventually deep space probes pick up signs of activity on the moons and relay a warning back home. With next to no defensive capability desperate Earth commanders decide to take the war to the Roxiz.

The cargo starship Storm is despatched to the first of the ten moons, a solitary future tank on board with pyschopath Luke Snayles at the controls. One tank against an entire invasion force? Whatever the odds may be, Earth has no choice — attack or die.

Landing on the surface of the first moon Mimas Luke takes the tank around the barren world. The Roxiz have been busy, it seems, building strange structures and radar installations — only a couple of seconds sightseeing is possible before the first enemy tank spots the intruder and the ruckus begin.

The ultimate goal in *Voyager* is to reach the tenth moon Phoebe before the Roxiz are ready to attack. The short term goal however is the total destruction of all 80 enemy tanks, hover fighters and attack vehicles on each moon.

Each moon has its own mixture of enemy vehicles. The first few moons are patrolled by weakly armoured light tanks, mine-laying hover craft and other minor nuisance foes. Soon ever stronger and stranger enemies join in the fray. Walkers, double gun tanks, cousins of the *Starglider* craft, hover gunners, squashers, mystery craft and other cannon fodder gradually appear on each new moon.

The on board laser cannon is nearly always enough to destroy most tanks but when the heat is on an atomic smart bomb is quick and lethally efficient. Try keeping some in reserve for the later moons — you'll need them.

The radar used to hunt down tanks can also be used to locate equipment pods which give forth a variety of offensive and defensive tank add-ons — cameras, atomic bombs, radar jamming pyramids, decoys and multiples provide a variety of offensive/defensive capabilities. A pod containing a skimmer can also be found to transform the tank into an aircraft on the later moons.

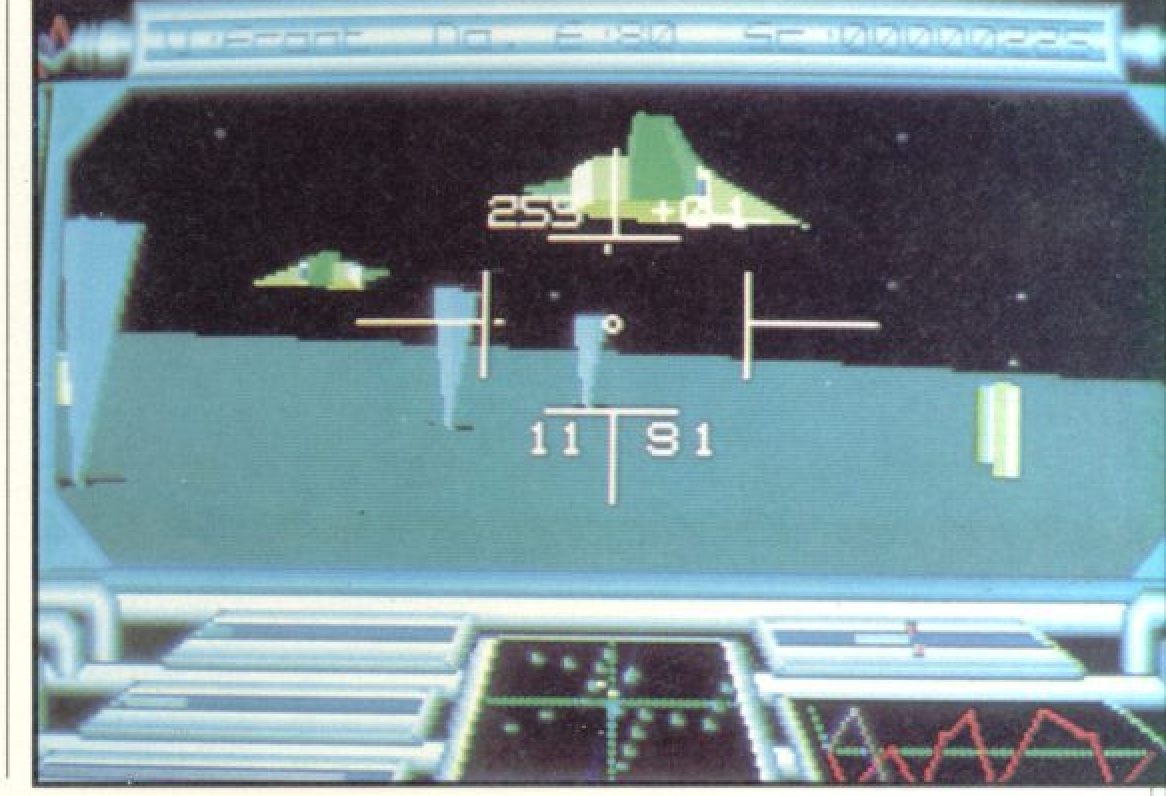
Not all extras are readily available on the first moon — you have to progress further to find many of them.

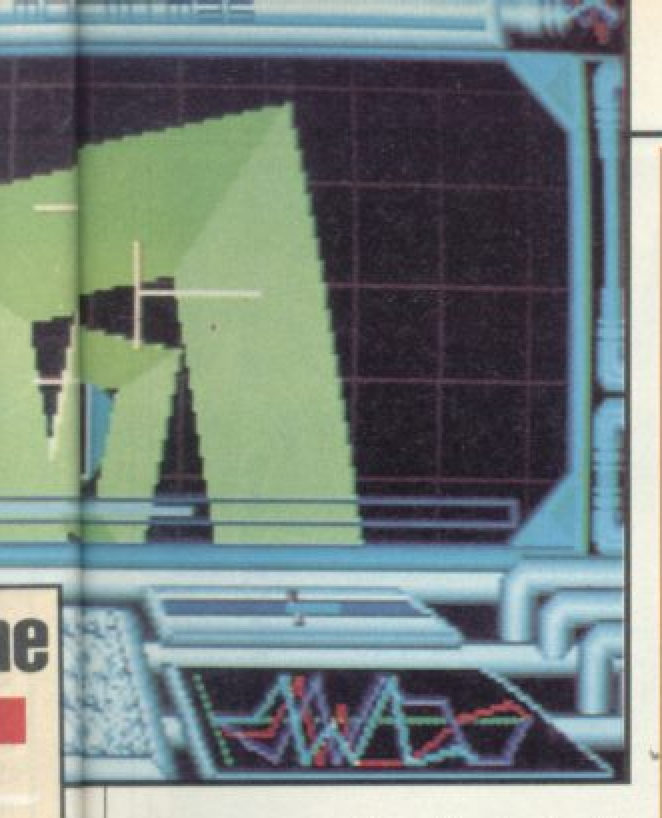
When all tanks are destroyed the warp gate to the next moon opens for a limited time, fly safely through to the other side to continue the battle and force the Roxiz to retreat.

Much more of an arcade game than *Starglider 2* ever was, *Voyager* boosts the idea of a humble solid 3-D Battlezone beyond all recognition. Tank combat is improved ten-fold with the addition of extra weapons requiring tactical and strategic use.

The Games machine TOP SCORE







The concept may indeed be as playable as it is dated but out-and-out carnage has never looked so good. The 3-D environment brings new life to the ideas of tank blasting action and with it comes a whole new depth with different weapons to use. The introductory sequence sets the scene with the Storm dropping the tank onto the surface.

You against a massive enemy force and the fate of Earth hanging in the balance — prime material for a great blast and *Voyager* is it.

Call it outdated if you will, but *Voyager*, with its solid 3-D graphics brings new life to tank blasting action on the 16-bit machines — all Amiga screens



AMIGA 92%

£24.99

The Jonathon Dunn title track enhances an already scene-setting soundtrack, the graphics moving with similar fluidity but all the better with a slight increase in speed and stronger sound effects.



ATARI ST 91%

£19.99

Solid 3-D is rapidly becoming a natural for the ST, the tanks move speedily and with very smooth animation. The tanks are detailed enough with several building blocks per graphic, and they change dramatically with each moon.

OTHER FORMATS

A PC version is planned for June, priced £19.99 and should run slightly faster and look much the same (the graphics pending use of EGA and VGA, the speed dependent on the machine in use).

A difficult game to fathom

THE DEEP

US Gold

Nothing to to with the movie based on Peter Benchley's novel, killer whales, sea snakes, jelly fish and Jacqueline Bisset in a wet T-shirt don't even get a look in. The game is, however, a conversion of the coin-op of the same name from obscure arcade manufacturers, Woodplace.

Enemies in *The Deep* come in disappointingly conventional form — a variety of submarines. Nevertheless, they're more than a little dangerous, and should be stopped before they invade the good ol' US of A, or something equally monstrous.

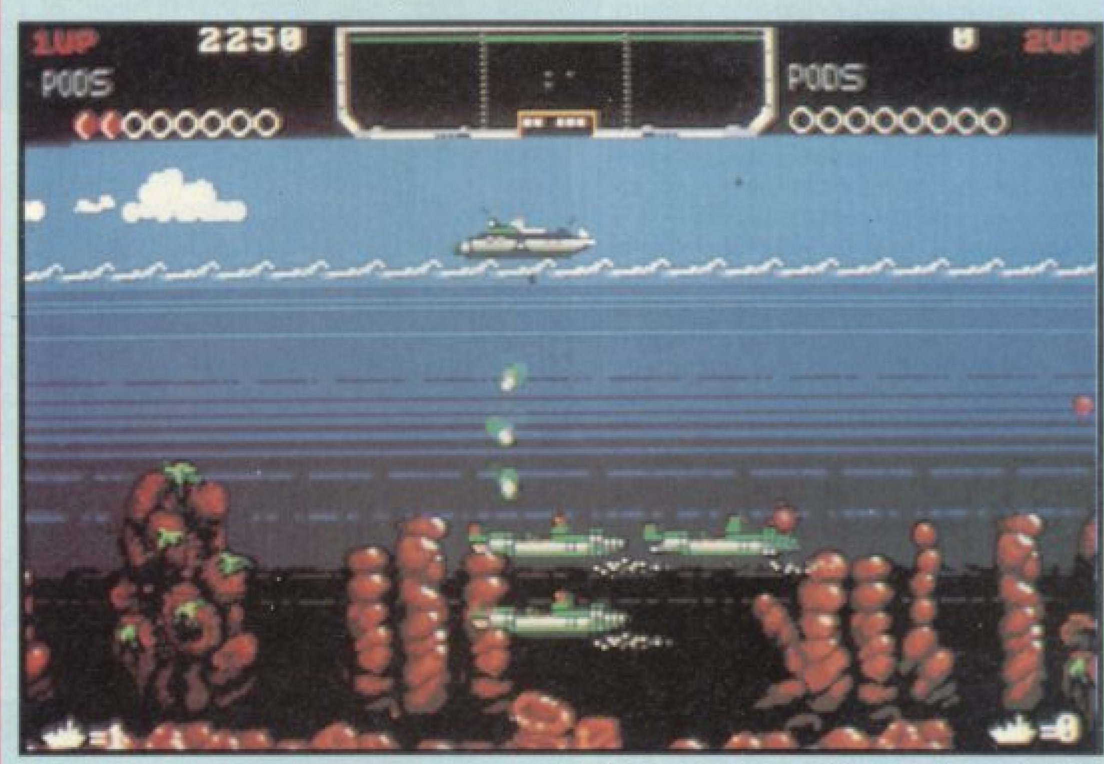
The game shows a cross-section of the sea, its rocky floor at the bottom of the screen. Near the top, you guide a ship on the surface and release depth charges from it to destroy subs. Some release pods; collect one and a helicopter is summoned which drops an add-on device. Homing missiles, submersible pods, extra speed, smart bomb and increased depth charge power are available.

The game is formed from three short scrolling levels. At the end of each, a submersible pod is guided to collect a token from the sea bed. When three have been collected, an enemy mothership threatens.

In stage two, a ship slowly approaches. You have a short time to stop it with a projectile whose launch angle is determined by the fire button.

A peaceful convoy must be defended in the third stage: missiles are launched from the sea bed towards it and, in Missile Command amnner, you use a cursor to halt them in flight.

The weak coin-op consisted of just long scrolling stages with a mothership at the end of each. Though in the conversion US Gold have added some new features and stages, the game remains an unexciting rehash of old ideas.



The graphics differ, as you would expect, between versions (Atari ST above), but essentially the gameplay hasn't been updated since some of the earliest 1984 Spectrum fare



AMIGA 38%

£24.99

Faster than the ST version so a little more playable, there's still not much to the game. The sound is obviously better, but an endless sonar bleep and unchanging explosion effects can



ATARI ST 38%

£19.99

Graphics are a little lacking in detail and sprite movement could have been smoother. The use of bands to give an illusion of watery depths is weak to say the least. Scrolling is a bit jerky, and like ship movement, is rather slow. The sound effects are sparse.

SPECTRUM 41%

£8.99 cass
£12.99 disk

The stretch of sea depicted on the Spectrum is extremely polluted — it's pitch black! Your ship is also black, which makes the game ugly to begin with. The sea bed scrolls adequately but the subs lack detail and there's some ugly attribute clash.

OTHER FORMATS

Commodore 64 (£9.99 cass, £14.99 disk) versions are out now, with PC versions coming soon (£19.99).

PRESS ANY KEY

Aquatic sport and mayhem in deepest space

TYPHOON THOMPSON in SEARCH FOR THE SEA CHILD

Broderbund/Domark

Many readers may be too young to remember an old, old classic game from Broderbund's original software range. *Choplifter* put you at the controls of a crudely designed helicopter sprite which was used to rescue men while blasting enemies. Simple, but great fun. Now the creator of *Choplifter*, Dan Gorlin, releases his latest work in the UK, hopefully the first in a long line of adventures for reluctant hero Typhoon Thompson.

A planet whose surface is covered entirely in water, Aguar lies in the Omega sector of space. Long ago a human civilisation milled around its aquatic highways and byways, but Aguar is now devoid of all humans — except, perhaps, one...

In February 2124 Flight 396 plunged into the barren tropical waters of Aguar. Three search parties have explored its currents and, to the best of their ability, its vast depths, in the slim chance of rescuing survivors. All three parties became victims themselves of the curious little creatures known to humans as sea sprites.

A faint signal still radiates from the sea world, however, a signal indicating that a human child still lives. It is suspected that the child has been adopted by the sea sprites and one last rescue mission is to be undertaken, by one very special man — Typhoon Thompson!

As you join his adventures, he is forcibly thrown from the safety of a flying saucer by a galactic cop, to land with a bump at the controls of his Jet-Sled. In the game, you control the hovering aquatic vehicle and its weaponry.

Your first destination is the outpost of the spirit guardians, your only outside help. They give the sled additional weapons to supplement the standard laser cannon and tell you which magical artefact is the aim for each of the first four levels. These special objects are essential if the child is to be saved.

The main objective is to capture all the sea sprites living in islands grouped together to form a village. A twinkling light indicates that an island is occupied. If blasted, one or more (depending on the level) of their flyers appear. If they in turn are shot, a sprite is released, falling into the sea, ready for collection.

The ditched sprite has other ideas and begins to swim away for all its worth. Typhoon can, if he's quick, zoom in to pick it out of the sea and pop it in his sack. Dawdle too long though and the sprite turns into a fish swimming and leaping back to the safety of its island.

Once all sprites are in the sack, just go to the Treasury Dome in the center of the watery village. Here a wonderfully animated but very angry sea sprite gives Typhoon an artefact in exchange for the captured sprites.

Once Typhoon gets back to the Guardians with the artefact the ghostly figures give our hero a new weapon, an extra life and a command to find the next of the four artefacts.

With each new level the number of sprites to collect increases dramatically and the flyers become even deadlier — some can destroy one of Typhoon's three jet-sleds while others are more vicious and kill Typhoon himself. Death or loss of a dinghy means going back to the Guardians for a new one (which is taken out of Typhoon's reserve stock). The shild is gone for good if Typhoon runs out of jet-sleds or lives.



Typhoon Thompson may like to think himself a tough guy, but when it comes to balloons, well...

After recovering all four artefacts it's a simple matter of rescuing the child from the sea sprites...simple?

In essence *Typhoon Thompson* is straightforward with not much depth (no pun intended). Some of the most playable games are like this, and *Typhoon Thompson* is one of the most entertaining and playable games around at the moment. The jet-sled is a tricky vehicle to ride but takes only a little practice to master.

The infectiously addictive and pleasantly simple gameplay overcomes game's lack of

The Games machine STAR PLAYER





Incurably and inerradicably cute, *Typhoon Thompson* is the kind of game which just makes you wish you had bought an ST — Amiga owners will have to wait

scope. Even if you do rescue the child a momentous task in itself), the very large temptation to try again just doesn't go away. Technically brilliant and brilliantly simple, funny and very clever, it's a classic game.

OTHER FORMATS

No word yet on any other versions. An Amiga game would be easy enough to produce and 8-bit conversions should be easily possible.



£19.99

Typhoon himself smacks of distinctly Loderunner **influences and has his own charm and persona. David Bunnett's literally amazing animation injects a superb sense of humour into the tiny characters. Watch the Treasury Sea Sprite when he emerges to meet Typhoon to see what we mean. Graphically, sonically and in presentation** Typhoon Thompson **is so slick it's almost unreal. A 'just-one-more-go' game par excellence.**

The ultimate space shoot

R-TYPE

Electric Dreams ■ Amiga £24.99
Atari ST 82%, Spectrum 90% — TGM015

This is the ultimate home computer conversion of Irem's biggest hit so far. R-Type turns out very, very close indeed to its arcade origins and lacks nothing of the coin-op's presentation, gory graphics and playability. Arcade addicts may find the squat screen does marginally limit manoeuvring space, but the game's all the more challenging as a result of it. If fault can be found (and you'd be hard to pushed) then maybe the sound could have been better; as the tunes stand they're good but they don't push the Amiga. This is a superior and very slick blast-'em-up.

TGM update rating 89%



From arcades to PC Engine, 8-bit to 16-bit, *R-Type* succeeds, but never better than on the Amiga

VERSION UPDATES

AMIGA
Baal
PSYCLAPSE £19.95
Atari ST 81% — TGM015

After the quality of *Baal* on the ST, Psyclapse steer a rocky course with this conversion. The replacing of the excellent ST sampled tune with a jolly but inappropriate 'house' track is acceptable, but the Amiga's colours aren't used and the game's overall appearance is dull. Poor presentation has led to a much lesser game all round.

TGM update 65%

COMMODORE 64/128
Action Service
COBRAHSOFT/INFOGRAMES
£9.95 cass, £14.95 disk
Atari ST 33% — TGM013, PC 29% — TGM014

Watch out soldiers! Each succesive version of this awful game is worse than the last. Having endured ST and PC versions, we're now presented with the blocky, poorly animated Commodore 64 game. Occasional simple effects are the only sounds and control response is no better than on the 16-bit versions. Let's hope this is the last of this intolerably dull product.

TGM update 24%

AMIGA
Zany Golf
ELECTRONIC ARTS £24.95
Atari ST 83%, PC 82% — TGM017



The Amiga version of this Star Player wacky ball 'n' hole game has the same clear, colourful graphic style as the ST. The sound's been improved with some original quality voices adding humour to the tunes, while gameplay is unchanged, giving Amiga owners plenty of competitive, addictive and zany fun.

TGM update 84%

COMMODORE 64/128
Last Duel
US GOLD £9.99 cass, £14.99 disk
Spectrum 63%, Amstrad 55%, Atari ST 65%, Amiga 70% — TGM016

The scrolling on Last Duel is slow and a little juddery, the backgrounds are simple and blocky and sometimes offensive to the eye. The sprites are adequate but the effect of the three-wheeled vehicle jumping is pathetic, and the two-player element adds little to this, the weakest of all the versions.

TGM update rating 43%

Minding your R's, P's and G's

Y's

Sega



Up until now role-playing games haven't worked on the Sega. Miracle Warriors was a weak mixture of simple game ideas and Golvellius wasn't applicable with its strong arcade overtones. Y's brings out the true classical elements of role-playing.

The hero of the hour, Aron Christian, finds himself stranded in a strange land following a shipwreck. The nearby town of Minea is the starting place for Aron's adventures and it's here that the adventurer learns of the six magic books of Y's, books of incredible power which, if all are found, could be used for catastrophically evil purposes.

Tales are rife around the village of an evil sorcerer called Dekt who's searching for the books. No-one wants to take him on and it looks like curtains for the land and its people unless someone can come to their aid — Aron.

From Minea Aron can set out to explore the land, but courage and a thousand gold pieces just won't do to survive the perils of the wilderness and beyond. Around Minea traders buy and sell many an object: armour, weapons, food and miscellaneous items are all available to those with money.

Scant clues, red herrings and advice can be obtained from the locals in the pub or alternatively people wandering the streets.

Eventually Aron meets Sara the Seer and it's from here that the adventure really begins — Aron ventures out into the wilderness and the surrounding lands containing villages, a temple, a mine and other sites rich in adventure.

Somewhere out in the dark land lies the first three books of Y's, the other three are a little harder to obtain, Dekt has got them and the way only to get them is to enter his Tower of the Doomed. No role-playing game would be worth its salt without the spice of combat. Aron can arm himself with swords and other weapons but even the enemy just outside Minea are tough nuts and best avoided. Later on secret powers and new weapons help in the task if he lives long enough.

Like *Miracle Warriors*, *Y's* also has a vital save/load function to back up posi-

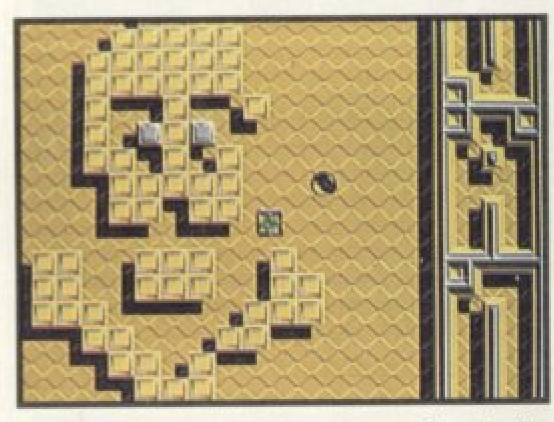
A horizontal break-out

TITAN

Titus

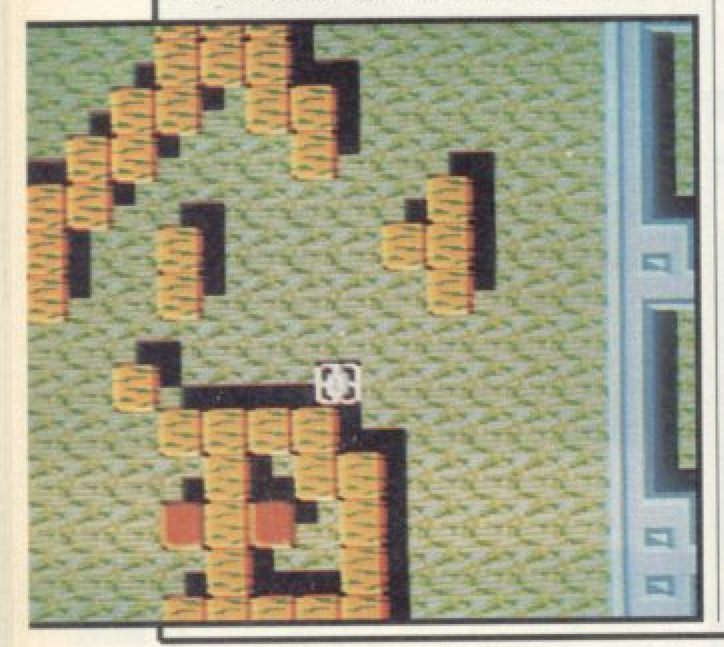
A Titan warrior has entered an alien complex — his aim: to destroy the energy cells which occupy the many chambers from which the complex is composed. To do this, he has a high-velocity ball which he throws, bouncing it off walls and destroying the rectangular cells.

Sounds familiar? Yes, *Titan* is a variation on the ancient *Break-Out* theme, but with the important and major difference that the playing area scrolls. The bat (the warrior) can be moved in the eight main compass directions and the maze-like chamber/level



scrolls to keep it centre screen. The ball's direction is influenced by the bat's stroke and speed by the fire button. As well as obvious features such as blocks requiring multiple hits, later in the game aliens, solidifying blocks, one-way and ball-only gates are introduced, making the whole thing a lot more difficult.

The larger levels and more flexible play that a scrolling *Break-Out* allows seem like a good idea at first, but the faults *Titan* gains from this outweigh the good points. The ball bounces around at high speed, leaving you chasing around after it like a madman. The bat's too small, and when you manage to hit the ball it reflects in a random direction — or at least, more often than not, a direction you don't want. And the backgrounds are a further distraction when quickly changing heading.



8-bit and 16-bit *Titan*s differ with the Amstrad's vertical screen format (left) and the Amiga's landscape (above). But with the latter's colour scheme, you'll need to keep one hand on your joystick and another on your stomach if you're going to get anywhere



£24.99

Nice presentation — rippling water reflecting high scores, stone pillars and metallically shaded lettering — continues in some of the graphic features, but a bright colour scheme and fast play means there is always a danger of vomiting over your monitor. Samples of tom-toms and similar percussive instruments are strewn throughout, and the aural highlight is a classical singer warbling an ascending scale while the teleport is used.



£9.99 cass
£14.99 disk

The screen size has been altered to a tall rectangle, a feat that would be more useful to the usual Break-Out/Arkanoid **clone. The bas-relief graphics are pleasant if simple, but the garish colour schemes combined with fast direction changes spoil the overall visual effect. To its credit, the scrolling is very smooth and the gameplay is amusing for a while.**

OTHER FORMATS

Commodore (£9.99, £14.99), Atari ST (£19.99) and PC (£24.99) are imminent, with a Spectrum version (£8.99) available in May.



Coming into its own: one hot RPG for the Sega — the *Y's* have it!

tions. The battery storage is quick and efficient to use and a necessity if Aron is to be in with a chance of completing what is a truly deep and demanding RPG.

The Sega is really coming into its own with games like *Y's*. An obvious cross-console comparison would be with the *Zelda* games on the Nintendo and against them *Y's* compares admirably — in many respects the character detail and all-round presentation make it the better game visually, although the puzzles aren't quite so involved or devious.



£24.95

The characters are small, squat and endearingly cute as they move around an extremely smooth-scrolling playing area. On entering buildings you're greeted by excellent close-ups of people enhancing the already rich atmosphere. Elements like this assure a success for Y's as one of the top-rank RPGs around.

A better quality of war altogether

WAR IN MIDDLE EARTH

Melbourne House ■ Atari ST £19.99 PC £19.99, Amiga £19.99

Spectrum 65%, Amstrad CPC 65%, Commodore 64 62% — TGM017

While the 8-bit versions of War in Middle Earth failed to impress, the 16-bit conversions are a different cauldron of hobbits altogether. It has been enhanced considerably — find treasures and recruit armies in this much more involving game. Sauron's armies are all but invincible, so the best you can hope for is to stem the tide long enough for the ring bearer to complete his quest. No two games are the same. Even when you've completed War in Middle Earth there is still plenty to do such as refining your stratgies and locating all the hidden objects. There's little difference between the three 16-bit versions reviewed here other than sound and some minor graphical differences, but the game plays just as well on all formats.

TGM update: PC 88%
Atari ST 88%
Amiga 89%



***War in Middle Earth* didn't fare too wellon the Spectrum, traditionally Hobbit land, but on the 16-bit machines it turns out very well**

VERSION UPDATES

SPECTRUM

Captain Blood

INFOGRAMES £9.95 cass, £14.95 disk
Atari ST 74% — TGM007

The Alienesque H.R.Giger-inspired organic spacecraft console doesn't lose too much in the translation to monochrome and, although grainy, the 3-D canyon sequences are effective. Hyperspace and planet-destruction graphics sequences are disappointingly crude, but Jarre's Zoolook music is enjoyable enough and so's the overall gameplay. Unfortunately, Captain Blood is showing its age now.
TGM update rating 68%

PC

Daley Thompson's Olympic Challenge

OCEAN £24.95
Spectrum 72%, Commodore 64 73%, Amstrad 63%, Amiga 65% — TGM013, Atari ST 64% — TGM014



The PC mimics the other 16-bit versions, in using digitised Daleys and high overhead views in some events. With the relatively restricted palette of EGA though, black, green, red and grey make an unusually unattractive Thompson. This is too late to cash in on the Olympic spirit, and worse than US Gold/Epyx' The Games: Summer Edition.
TGM update rating 59%

AMIGA

IK Plus

SYSTEM 3 £24.99
Atari ST 88% — TGM014

TGM first looked at Arthur Maclean's fast and furious beat-'em-up as part of our martial arts action issue. The Amiga game plays the same as on the ST; the only differences are the slightly more attractive sunset effect and some enhanced music. Gratuitous pixel violence is especially good fun in IK Plus — a must for Amiga-owning fans of the genre.
TGM update rating 88%



Blood and bruises in the future

RENEGADE 3 THE FINAL CHAPTER

Imagine

With his girl kidnapped not long ago, his brother murdererd by Mr Big and now his girl kidnapped yet again, it's all proved too much for Renegade...now he seeks TOTAL vengeance.

But this rescue attempt isn't quite so easy. Renegade's girl has been spirited away by foes with a nice line in time travel. It just so happens that the Renegade has also discovered the secret and off he goes through the temporal void chasing his opponents back and forth. The kidnappers have made him real mad and they're going to pay for it in blood and bruises!

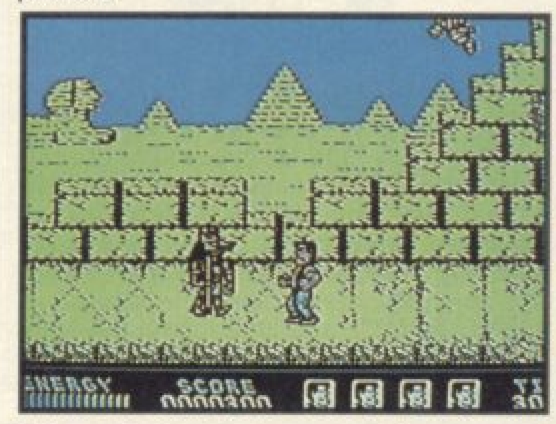
Renegade moves ever right-wards nutting, kicking, crippling and maiming the opponents hoping to reach the next stage. Though if he dwardles he could get trapped in a time zone forever — and that's a mighty long time to spend thumb twiddling.

The search starts one million years back when dinosaurs ruled Earth. Cavemen, dinosaurs and egg-dropping pteradactyls assail the macho hero as he wanders casually through the level. The fighting comes to a head at level's end where we learn Renegade's beloved's been spirited to ancient Egypt. The fight and fists action continues through to Ye Olde England with Knights on hobby horses, jesters and dragons flapping around castle ramparts.

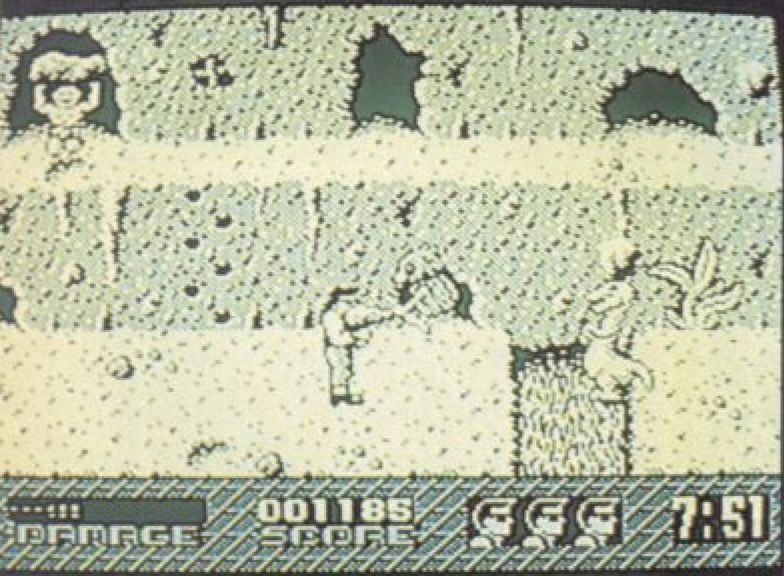
Following the trip around King Arthur's abode, its back to the future and beyond to space stations where robots try to fry our merry hero.

Renegade 3 keeps with tradition, which may disappoint fans looking for several new ideas. The ommission of a two-player option could have been a mistake, but would invariably have made the game far too easy — as it is it plays at just the right level.

Target Renegade was good but the second sequel is so much more fun — gratuitious pixel violence is always a satisfying pastime, and *Renegade 3* just goes to prove it.



The unholy mayhem continues with Imagine's third — and most enjoyable — Renegade: Commodore 64 above, Spectrum below left



SPECTRUM 84%

£8.99 cass £14.99 disk

Judging by past experience Spectrum owners have little cause to worry about with high resolution screens throughout with bags of detail although monochrome in appearance. The atmosphere of each period is brought to life with some great128K tunes (the Egyptian piece is especially authentic sounding).

C64/128 79%

£9.99 cass £14.99 disk

Not quite as detailed graphics running around but colour is used well and the music is catchy. It doesn't quite matching the Spectrum version for playability, and the overly-precise collision detection can be nuisance.

OTHER FORMATS

An Amstrad version should be out now at £9.99 and £14.99, with ST and Amiga versions (£19.99 and £24.99) released in June.

The eagle versus the bear

BALANCE

Mindscape

If there's one game destined for immortality in the battlefield of strategy games it's *Balance of Power.* Subjected to many a request, plea and ultimatum, Chris Crawford has now produced a sequel, or rather an 'independent extension' of the existing program.

A simulation of geo-politics in the nuclear age, *Balance of Power* has you sitting in the ultimate hot seat in either the Kremlin or the White House. The goal: to take your nation through eight years of political rule without triggering World War III and at the same time maintaining and improving upon a strong political, economic and military presence worldwide.

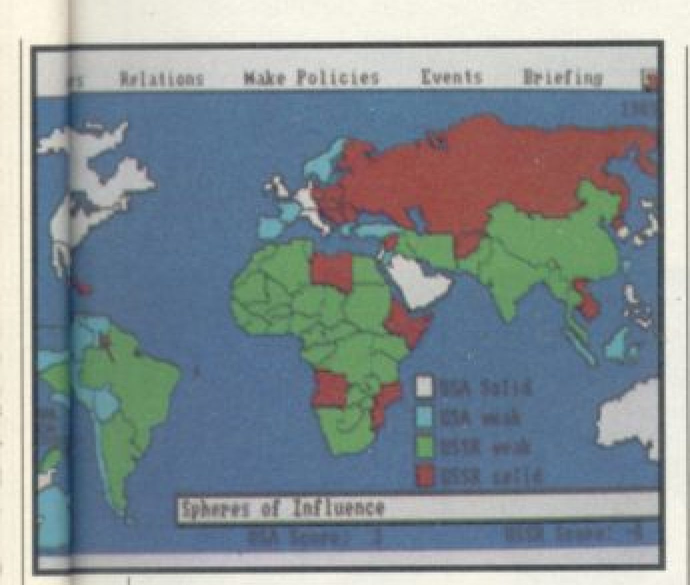
Chris Crawford hasn't made the 1990 edition significantly different in execution. Instead he's added a multi-polar level of play whereby the other countries now control their destinies. This increases the all-round game complexity to frighteningly high levels of complexity (the Nightmare level is nothing in comparison with this monster!). If it all gets too much four advisors are on hand at any time to provide

CARRIER ON STANDBY

Spectrum owners will just have to grit their teeth untill *Carrier Command*'s release date is announced, because Realtime are improving the game yet further following some suggestions from our sister magazine CRASH. Whenever it appears *Carrier Command* will be well worth the wait.



E OF POWER - 1990



their views on sensitive situations.

There can be no question about the depth and challenge of *Balance of Power* — the 1990 Edition is more of the same and is THE definitive strategy game with no exceptions. Cynics however, might say the 1990 Edition is too much of the same.



£24.99

Both ST and Amiga versions suffer from a lengthy delay while the computer works out all 80 countries' actions and as nuclear wars are very easy to initiate the save function is nearly always in use each turn. Graphically and sonically, the ST version is exactly the same as the Amiga.



£24.99

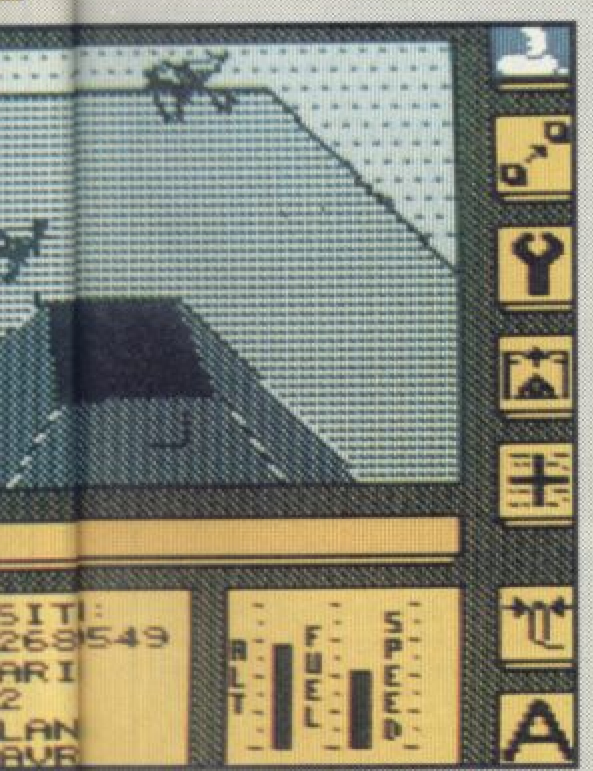
Balance of Power **isn't a game to show what both 16-bit machines can do when it comes to presentation. The use of colour is strictly functional and the no sound effects rule is odd at first but entirely logical. If you enjoy strategy there's nothing else which comes close. This is the ultimate strategy game.**

Breaking the Spectrum barrier yet again

CARRIER COMMAND



Rainbird 128K Spectrum £14.95 cass, £15.95 disk



Atari ST 98% — TGM007, Amiga 97% — TGM011

It pushed the ST let alone the Spectrum, but the Realtime team haven't wasted their time. Andy Onions hasn't just converted the game, he's improved on the original 16-bit versions in a healthy number of areas. Ever more advanced programming techniques have brought the game up to ST standards in speed although the graphics are obviously not as smooth flowing.

Unbelievably the sound effects work better than the 16-bit counterparts and lessons have been learnt. Similarly, Dave Lowe's superb musical piece really shows what can be done with the 128K's sound chip.

The carrier's lasers have been toned down making the game considerably harder, even the gameplay has undergone slight tweaking in places which improves playability and the game's fluid running no end. And there's the time acceleration option which ST and Amiga owners were crying out for.

Well defined, neatly shaded solid 3-D objects, faultless presentation and gameplay which betters its 16-bit counterparts makes *Carrier Command* as much of a breakthrough on the Spectrum as it was on the ST — if not more. Brilliant.

TGM update 96%

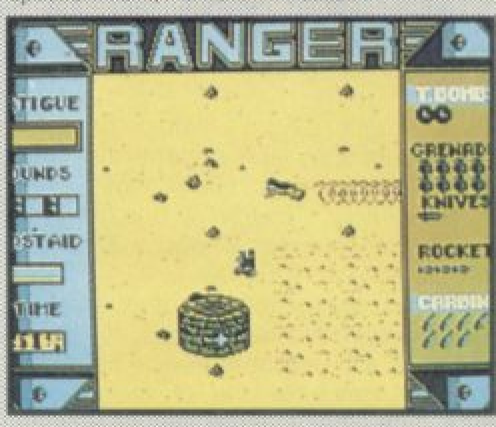
VERSION UPDATES

AMSTRAD CPC

Airborne Ranger

MICROPROSE £9.95 cass, £14.95 disk

Commodore 64 82% — TGM003, Spectrum 73%, PC 78% — TGM014



This is much the same as the Spectrum version although the four colours in Mode 1 are rather garishly implemented and the sound is limited to standard CPC spot effects. The strategic element is in keeping with MicroProse's previous games and assures considerable depth of gameplay, but the overall presentation has taken quite a battering.

TGM update rating 60%

IBM PC

Knight Games

MASTERTRONIC £9.99

First on the Commodore 64 over two years ago, and still a novel sports game, *Knight Games* enters the relatively competition-free PC arena. EGA and other colour modes create a pleasing authentic looking game despite the odd knight animation. Out of the eight events on offer all but two take the form of one-to-one combat, repetition follows and it's left to the crossbow and archery events to provide anything more than short term appeal.

TGM update rating 50%

AMIGA

Afterburner

ACTIVISION £24.99

Atari ST 47%, Commodore 64 29%, Spectrum 83% — TGM015, Amstrad CPC 68% — TGM017

Barely acceptable on the ST, the Amiga version looks much the same although the sampled music kicks the game off to a good start. The jet banks faster than on the ST but still rolls awkwardly. The worst thing about *Afterburner* is that neither the speed or graphic quality of the coin-op is captured in the conversion, and without either the game doesn't come over too well at all.

TGM update 50%



Raffaele Cecco does it again, and again, and again...

STORMLORD

Hewson

Raffaele Cecco's latest game has been long and eagerly awaited by 8-bit owners. Raf's most famous work is *Cybernoid*, but his credits also include *Copout*, *Solomon's Key*, *Equinox* and *Exolon*.

Classed as something of a sequel to *Exolon*, *Stormlord* takes place in the dark regions of a mystical medieval time rather than the spacestations of the unknown future. The Realm of the Mighty Stormlord went about its business peacefully and diligently, and for many years its people were happy with their humble lives.

The Stormlord had ensured protection from outside forces...until now.

The Queen of Evil has infiltrated the Realm, and captured many magical fairies who helped protect the land. Now, its defences in tatters, the Realm has been overrun by all forms of nasty creatures — the minions of the Queen of Evil. Stormlord's people are in a desperate state, unable to defend themselves from the violent, greedy attacks of the Queen's demonic beasts.

Naturally, as the leader of both the community as a whole and the peace-keepers who watch over it, it is Stormlord's job to rid the land of demons, before it's too late. The fairies must be freed from their cages and any beasts encountered slain, so that peace can once more be the land's guiding influence.

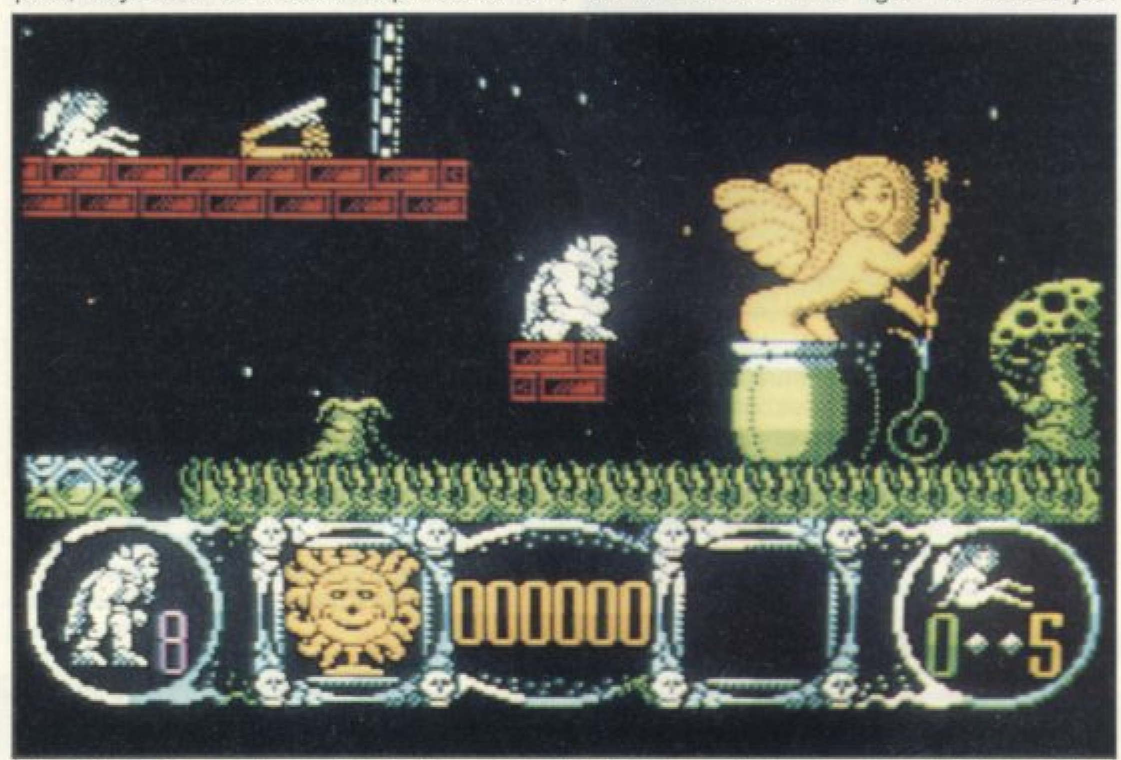
Stormlord is controlled by running and jumping along a horizontally scrolling landscape, composed mostly of platforms. Dragons, bees, acid rain, eggs which release giant insects, pawns and other beasts attempt to damage him, but he has an everlasting supply of swords and incendiary devices with which to preserve his eight lives.

To avoid a long slog there are springboards to catapult him high into the air and take him rapidly from one location to another — hopefully a place where a fairy can be rescued. Objects such as honeypots, keys and umbrellas help access to otherwise hard to reach areas.

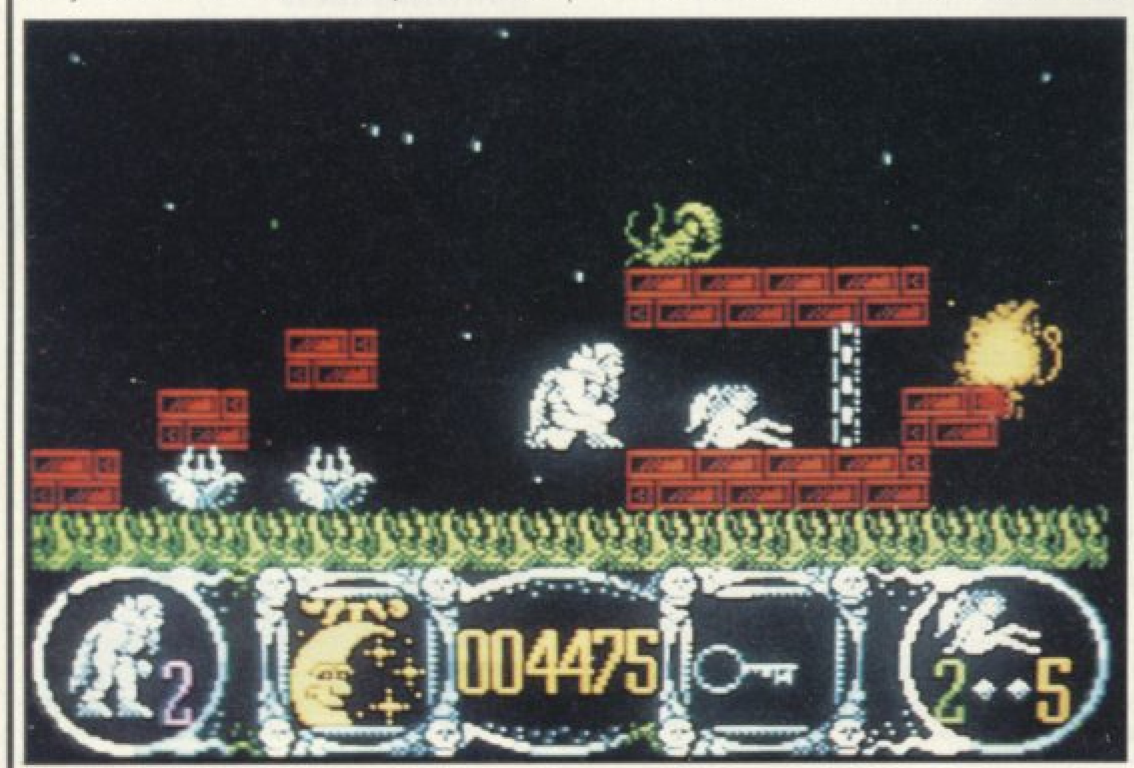
There's a bonus round in between levels too, where Stormlord blows kisses (small heart shapes) at a number of dancing fairies and in return they drop tears which can be collected for points. Unfortunately, like the actual levels, this is done against a time limit.

Well, Mr Cecco has done it again. There's nothing new or particularly special about *Stormlord*, yet is highly playable from the minute you pick up the joystick. It's by no means an easy game, either. Considerable practice is needed before the second level can be reached, and even then, the first level can still prove to be a problem.

Simple gameplay hides behind glossy presentation, but really this proves that the more straightforward the play, the more addictive the game. Although often frustratingly difficult, *Stormlord* has you going back time and time again to collect just those two or three more fairies that will complete the level and help restore freedom to The Realm.



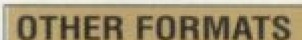
Gaming elements maketh the man: Raff Cecco's long association with the Spectrum pays dividends again in exciting *Stormlord*



SPECTRUM 86%

£7.99 cass
£14.99 disk

The backgrounds are well defined and cleverly shaded, and scroll smoothly as the brilliantly drawn Stormlord stomps along. The varied and amusing enemies are equally cleverly animated; well done Hugh Binns for some great graphics. The quality effects (including an amusing wolf-whistle when Stormlord lands on a statue), lively jingles and good, lively music round it all off nicely.



OTHER FORMATS

Commodore 64 and Amstrad CPC versions (both £9.99 cass, £14.99 disk) should be bounding off springboards as you read this. ST and Amiga version release dates are unknown as yet, but both are likely to be £19.99.

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Atari ST screen.



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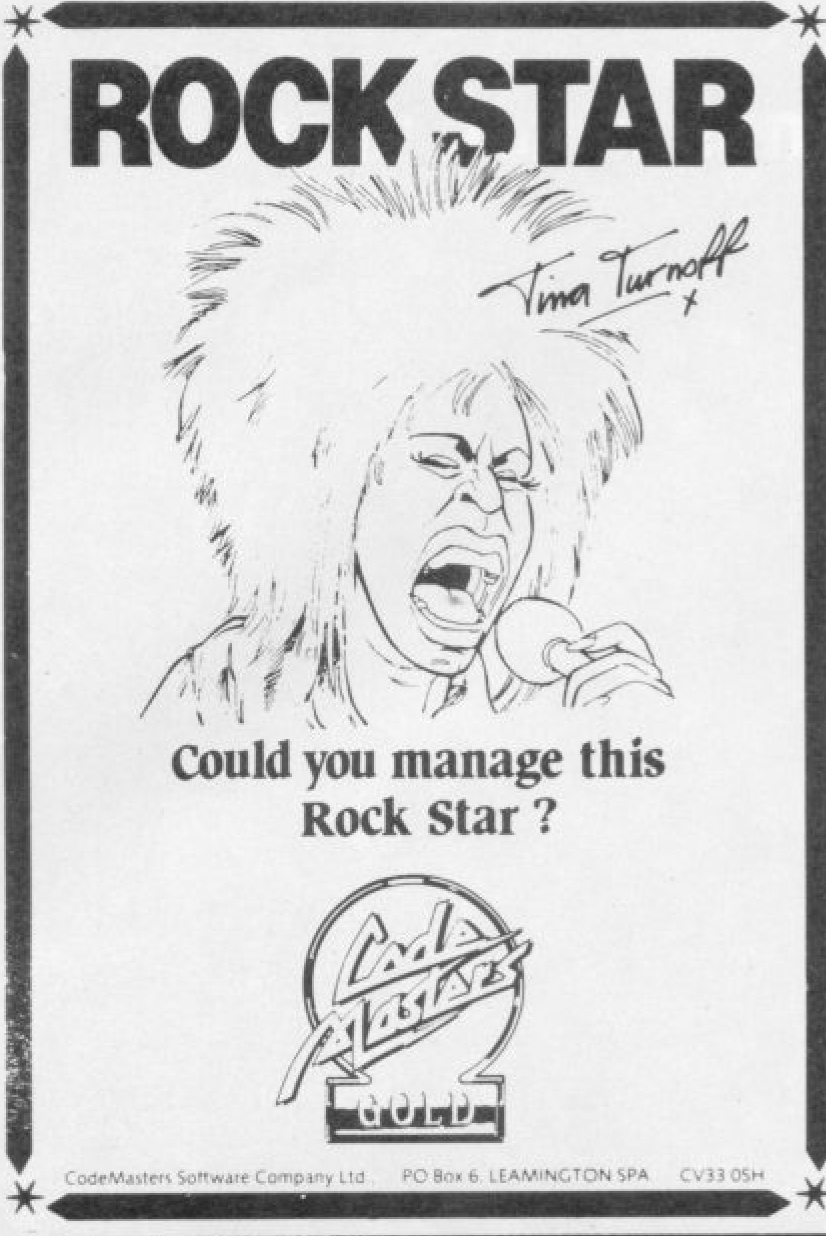
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Over San Francisco by day and night

JETFIGHTER

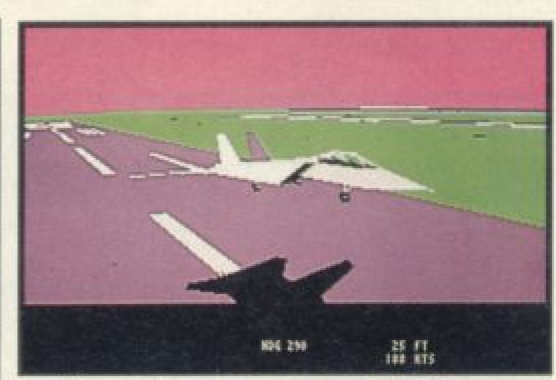
Velocity

Jetfighter is actually the Amiga simulation *Interceptor* on the PC done by original programmer Bob Dinnerman.

In command of a jetfighter, you're itching to get up there in the wild blue yonder. Why then are are you sitting waiting on the deck of the carrier Constellation just outside San Francisco Harbour?

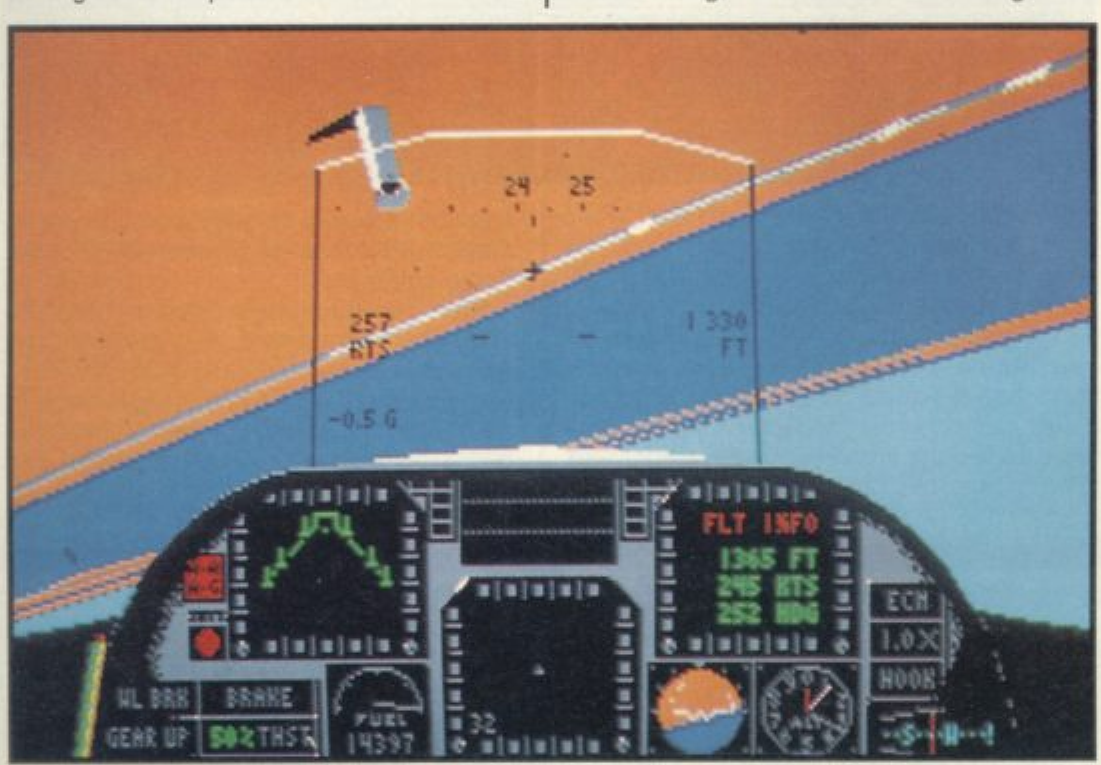
Orders, your commander said, MiGs are flying around just off the coast and there could be trouble. With the situation likely to flare up in a matter of minutes you're on standby, waiting to take to the air and defend the good ol' United States.

Expanding on the Interceptor theme, Jetfighter allows for control of not only an F-16 Falcon and F-18 Hornet but an F-14 Tomcat as well, complete with its swing-wing capability. An ILS system has also been added along with more missions and air-to-ground weapons.



Amiga *Interceptor* on the PC

Simulation fans who have seen Interceptor will recognise just how close it is to Jetfighter, although there are several extras in terms of misions and overall gameplay. Although Jetfighter doesn't quite come into F-19 Stealth Fighter's league — even though it's faster — through the inevitable sacrificing of graphical detail, with an incredible 32 missions there's a wealth of depth and the combination of simulation and action works very well indeed.



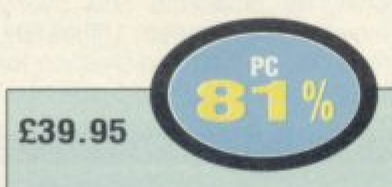
From the title screen each area of flight and jet combat can be fine-tuned. Independent missions can also be undertaken but to qualify for these four succesful carrier landings must be accomplished — two of them at night.

Once qualified you can then undertake the various missions — ranging from intercepting rogue aircraft to escort duties and even attacking with unguided bombs.

INTERCEPT SPEED

The tougher requirements for qualification are heightened by the speed at which the PC game moves. The faster the PC, the tougher it all gets. Owners of 286- and 386-equipped PCs watch out — this game is fast!

£39.95



If Jetfighter **had been available before *F-19 Stealth Fighter*, it might have had more impact. The planes have the detail and the speed is there but without more areas to fly around the realism can only be pushed so far. San Fransico can get awfully boring after awhile. Another drawback is the price, which might be okay in the States, but is a bit steep for the UK market.**

VERSION UPDATES

AMIGA ■ ATARI ST

Roadblasters

US GOLD £19.99
Commodore 64 47% — TGM010

The all-important driving effect works well on the 16-bits, but better on ST (pictured below) where road movements are fluid and objects and vehicles move past quickly enough to be satisfying. On the Amiga the minus is a restricted number of roadside objects



which negates the illusion of speed. Added to that the graphics are pretty basic to say the least. This is not the definitive race-and-raze game we were all expecting but an acceptable offering for fans of the coin-op.

TGM update: Amiga 60%
Atari ST 72%

AMSTRAD CPC

Tiger Road

US GOLD £9.99 cass, £14.99 disk
Amiga 70%, Commodore 64 66%, Spectrum 43% — TGM017

Amstrad games nearly always have the best of both worlds with a wealth of colours and the playability of Spectrum conversions — a pity in this case as the Spectrum version fell flat on its face. If you accept the blocky graphics and at times messy use of colour there's some vestige of a good axe romp within, although it may not look it.

TGM update 62%

AMSTRAD CPC ■ COMMODORE 64/128 SPECTRUM

SDI

ACTIVISION all £9.99 cass, £14.99 disk (not Spectrum)
Atari ST 58% — TGM014

Sega's middling coin-op may have already come across relatively intact on the ST but on the Z80 machines the heart of the game istaken out entirely with no background graphics to speak of in the offensive stages and no dual-player option (two players take part alternately). The Amstrad game suffers very badly with less colour than the Spectrum version.

The Commodore version fares a lot better, with neat backdrops helping to boost gameplay. Without the coin-op's gloss the similarity of each level brings very repetitive play with it, especially on the Amstrad and Spectrum.

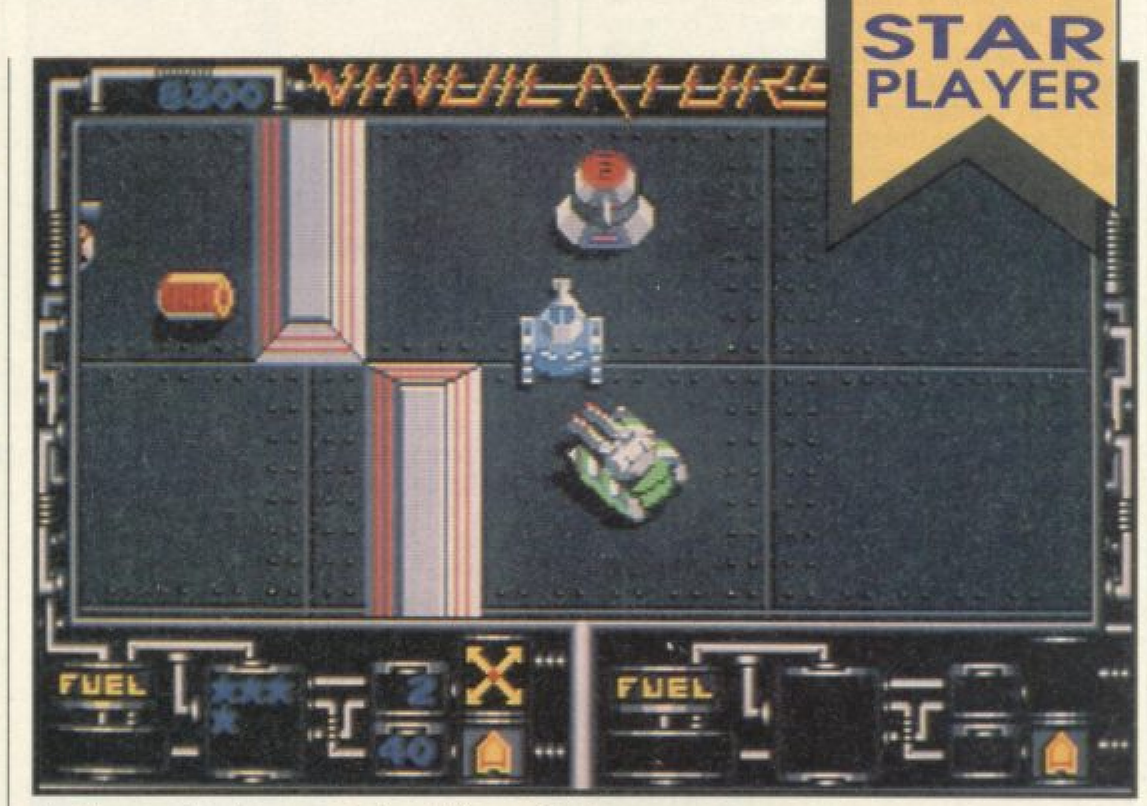
TGM update ratings:
Amstrad CPC 29%
Commodore 64/128 56%
Spectrum 37%

PRESS ANY KEY

Tanks a lot, Tengen

VINDICATORS

Tengen



Spinning through the quietness of space near Galaxy TR15 lie 14 space stations. The vast and ever-so-evil Tangent Empire owns the lot and from them comes a rather large and very nasty invasion force.

Sensing the potential threat, Earth sends a tank-carrying mothership to the area loaded to the brim with weaponry. The mission? What else but mass destruction!

Once onboard the first station the SR-88 attack tanks get down to business. Unfortunately, it seems the enemy isn't in the mood for making deals — to put no fine a point on it they're out for blood.

Vanquishing the Tangent Empire and its alien commander is the ultimate goal but to do this the control centres in each of the space stations have to be vapourised.

Each station is crammed with deadly tanks, gun turrets and hoverships all increasing in power, speed and effectiveness with each new level.

The security may be tight inside but the enemy are still rather careless, having left spare fuel pods around and Battle Stars to pick up. The former keep the tank going, the latter's used for tank customisation at the end of level. Using Battle Stars as currency more powerful weapons, shields and tank add-ons can be bought. Special weapons can also be bought for use against tougher opponents.

Trundling along vindicating all who dare challenge is the way to victory. To progress the key to the next floor of the station should be found. The final floor containins the control centre. Just get the keys, destroy the control centre and get out of there before it all goes up — easier said than done.

It's amazing how dramatic a transformation a coin-op conversion can undertake. The arcade machine was a surprising disappointment with its fairly standard gameplay, but this type of game is ideal for the home computers.

With its dual-player option, weapon-upgrading strategies, 14 stations and three skill levels there's enough of a challenge here to keep you playing for literally ages. Highly addictive, highly playable, highly enjoyable — simply a superb conversion from Tengen.

The Games machine STAR PLAYER

A sting in the tail

SCORPION

Digital Magic Software

The emerging Cheshire based software house Digital Magic Software are likely to stay largely unknown if the plot for this shoot-'em-up is anything to go by. A princess (this time of the planet Scorpia) has been captured and held at the end of five monster-filled levels. You know what to do.

Time does not apply in Scorpia, and the backdrops are pretty weird and wacky. Firing energy-bolts from your fingertips as you run and jump along, power can be built up by picking up weapon icons. You need to because the huge end-of-level guardians take some beating.

Five levels don't make a huge game these days, but Scorpion's are of considerable size, making each one a unique challenge. Difficulty is also increased by the sometimes reluctant control response, awkward positioning of platforms and overly tough and evasive adversaries. Ultimately, frustration must dictate a limited lifespan for this product.



£24.95

Smooth scrolling is the game's greatest attribute; definition and animation is quite sloppy (the Scorpion warrior looks like he's carrying a cowpat), with only a few graphical highlights. Sound is a selection of unremarkable and occasionally irritating samples. It all adds up to 'almost but not quite'.



Wacky, colourful screens disguise the sting in the tale — bad collision detection which helps create fiddly and frustrating gameplay



A brilliant debut coin-op conversion from Tengen guaranteed to at-track-t even the discerning arcade crowd and make them put money into games rather than slots. Both screens from Atari ST

ATARI ST 88%

£19.99

Not the most aspiring of coin-ops, Vindicators has nevertheless come over incredibly well as a computer game. Smooth scrolling in a large playing area, digitised explosions and some ace sound effects make Vindicators not just a superb conversion but a real fun game to play. Tanks a lot Tengen!

OTHER FORMATS

Commodore 64 (£9.99 cass, £12.99 disk) and Amiga (£19.99) versions will be available soon. A similarly priced PC version is also planned.

AMSTRAD 89%

£9.99 cass
£14.99 disk

As fast, if not faster, than ST and coin-op versions, it has a slightly larger playing area. The graphics and presentation are great, and the scrolling is the smoothest yet seen. The fact that it compares so well with the arcade machine is proof of Consult's talents and also the Amstrad's much underrated capabilities.

Plumb the labyrinthine levels of the awesome

DUNGEON MASTER

FTL Games/Mirrorsoft ■ Amiga £24.99 — 1Mb only



Atari ST 94% — TGM005

Probably the ultimate in computerised role-playing game reaches fat Amigas. Bad news if you don't have 1 meg of RAM because you won't be able to play it! An A500 version is planned for the Summer but until then owners of bog standard Amigas will just have to dream...
Graphically there's no change but the game and its incredible atmosphere is enhanced dramatically through superlative use of the Amiga's stereo system. Distant footsteps promising unknown horrors get the old ticker beating double-time, the tension rising with each new step and the very shadows themselves become potential monsters.

FTL have gone all out to provide nearly everything to do with classic fantasy RPG all in one game. They've easily surpassed themselves, but it's unbelievable just how good a job they've actually done and how well it all works.

There's something in the game for everyone, with action,adventure, fiendish puzzles and great depth. Dungeon Master oozes atmosphere and shouldn't be missed by any self-respecting RPG fan.
TGM update 94%

VERSION UPDATES

Human Killing Machine

US GOLD 16-bit £14.99, 8-bit £9.99 cass, £14.99 disk
Spectrum 74% — TGM017

The Street Fighter trend continues with *H.K.M.* but Tiertex have made little progress in creating new gameplay, changing no more than the graphics. The backdrops are different but little improvement over the previous game — the ST version having slightly better definition than the Amiga game, although across all versions the characters suffer from a chronic lack of animation.



While the Amiga game offers a better challenge with very hard opponents to defeat, on the ST and Commodore the challenge is negligible once the best of the limited moves is learnt (on the Commodore the flying kick, on the ST the crouching punch or kick). On the Amstrad there's a better defined level of playability than in the C64 and 16-bit version and if it wasn't for the putrid colour scheme used it could have been up there with the Spectrum version.
TGM update ratings: Amiga 30% Amstrad 63%, Atari ST 31% Commodore 64/128 26%

AMIGA

Hacker

MASTERTRONIC £9.99

A come-down for the Amiga, *Hacker* turns out as nothing more than a slightly refined Commodore version. A smoother illusion of movement around the tunnels is apparent and some of the peripheral screens are attractively done. Despite its underlying similarlity to the 64 game in graphic style and basic sound effects, *Hacker* is an intriguing puzzle-exploration game and stands the test of time well.
TGM update rating 55%

SPECTRUM

Superman

TYNESOFT £7.95 cass, £14.95 disk
Commodore 64 38%, Atari ST 43% — TGM016

Superman's familiar red and blue costume is exchanged for cyan and black in the Spectrum game in a 3-D Space Harrier-style landscape which passes slowly and jerkily. Character movement is also slow, as is the control response — which means you have to fire before the enemy is actually in your sights. This is one licence that definitely isn't superpowered.
TGM update 34%

Haven't we seen too many footy management sims?

KENNY DALGLISH SOCCER MANAGER

Cognito

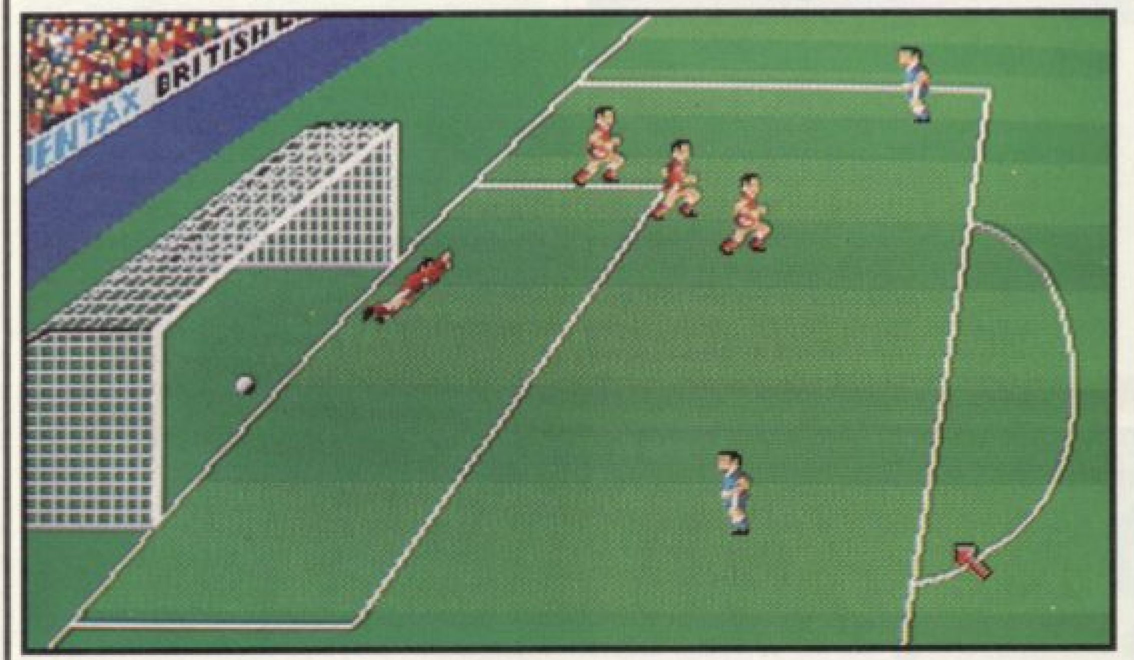
Kenny Dalglish is strangely missing from the icon menu screens from which the game is run with mouse and pointer. The main menu, like the others, has six large icons. The leagues' team and player names can be altered, and saved/loaded along with all current division positions. Book Case determines the level of detail of the data involved.

A boardroom option presents six faces which can give information on various aspects of the player's allotted club's fortunes: the chairman, accountant, physio, coach, bank manager and a talent scout all give brief reports in areas relevant to their interests.

League Table can be a cause of grief starting, as the team does, near the bottom of the fourth division, but the situation can hopefully be eased with the honing of the team. The skills of the current squad are assessed under First 11 — for each player, their name, position, ability (expressed as a percentage), games played and goals scored in their season and career, and age. Players of low ability can be dropped from the squad or from the club entirely.

The Cup gives a few facts about the next match, which in practice mainly consists of a clock ticking away the minutes at an accelerated speed. Occasionally, the match is graphically depicted to show an incident such as a shot at goal.





Attractive graphics hide a desultory football management sim

As far as a celebrity licence goes, this is similar in execution to *Peter Beardsley's International Soccer* (Grandslam) — Mr Dalglish's face is spread around the packaging (as Beardsley's was) but he's otherwise missing. Surely he could have appeared within the game, commenting or advising via speech-bubbles?

We've seen this sort of game many times before and there aren't any new features to excite, while match interludes are pointless. Sorry Cognito, but *Tracksuit Manager* still reigns supreme.



£19.95

The various icons are big, bold and colourful, as is the stadium background. Nothing is particularly well drawn, although the boardroom inhabitants have character and their Filofax-style organisers provide a nice touch. A soundtrack of some description might have helped dull gameplay.

OTHER FORMATS

An Atari ST version (£19.95) is available as this issue reaches you. Commodore 64 and Amstrad CPC (£9.95 cass, £12.95 disk) as well as Spectrum (£7.95 cass, 14.95 disk) versions will all be released shortly.

UPDATE STOP PRESS!

AMSTRAD CPC

Barbarian II

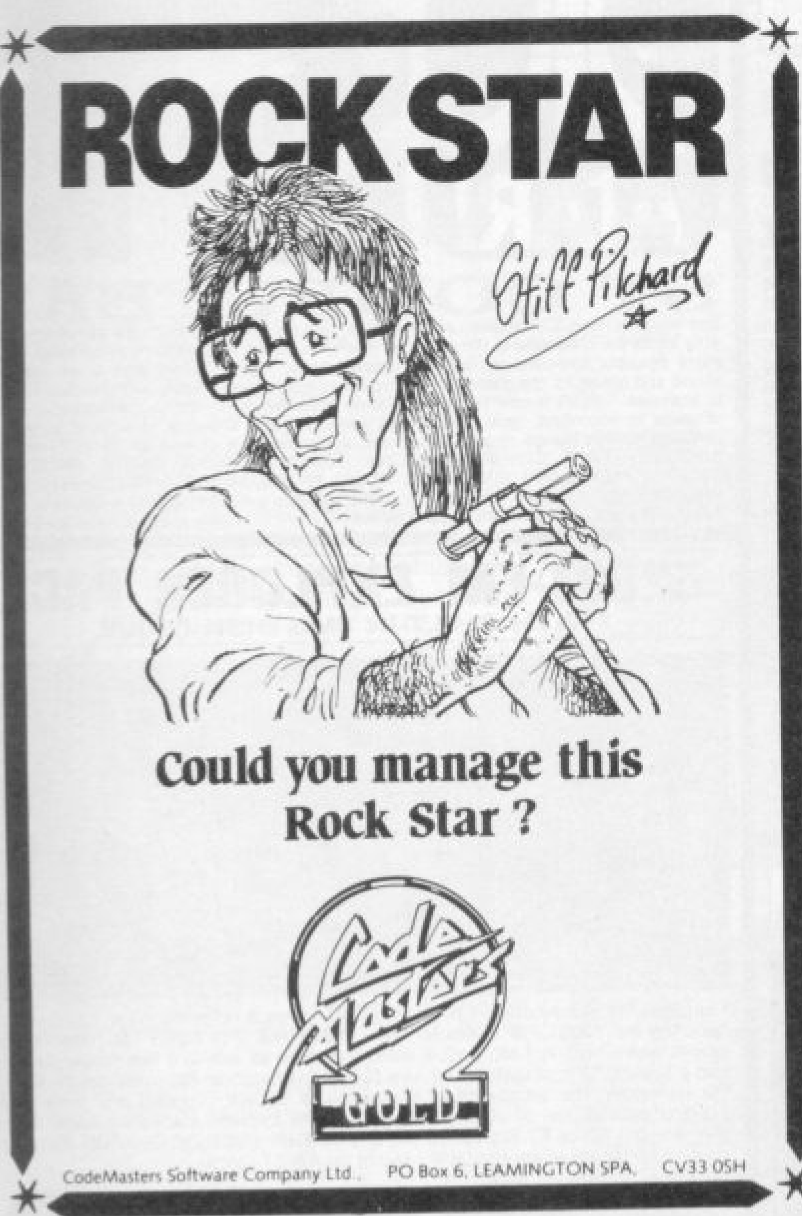
PALACE ■ £9.99 cass, £14.99 disk
Commodore 64/128 94% — TGM009, Atari ST 82% — TGM017

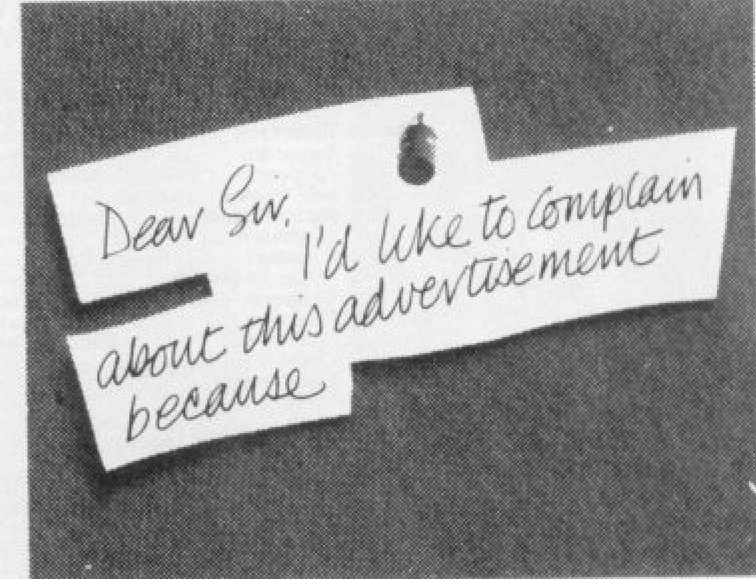
Haya! Whack! Thwack! Choose to play either the barbarian or Princess Mariana and slash your way through the Wastelands, the Caverns. and the dungeons, before arriving at the Inner Sanctum of Drax. All the classic pixellated monsters of the 16-bit versions are here, with well defined Saurian beasts, Neanderthal men, apes, mutant chickens, stingers, giant grubs and all the rest putting in a very acceptable appearance.

This is a well implemented version of the game of near-classic proportions. More attractive than the Spectrum version with a rich use of colour and solid looking graphics, the sound might be a little disappointing but that's par for the course on the CPC.This is a must-buy for Amstrad owners.

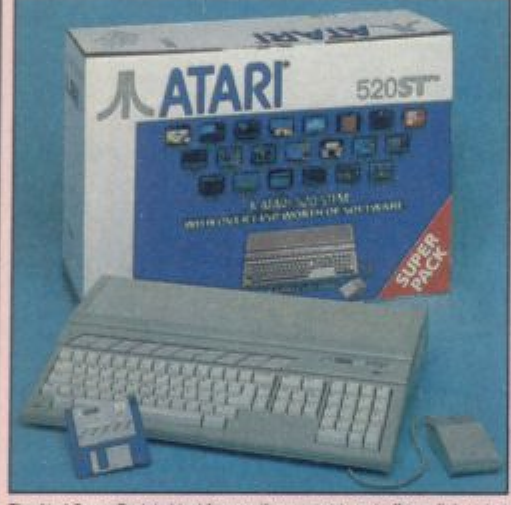
TGM update 78%




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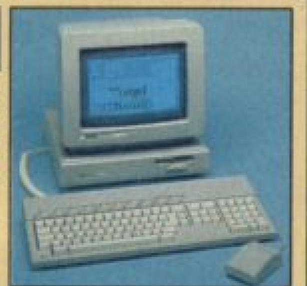
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Werebeasts dwell

ALTERED BEAST

Sega

The Sega Mega Drive shows off its superb coin-op conversion capabilities with *Altered Beast* (see TGM017 Report), but until it hits the UK we'll have to make do with the good old 8-bit version.

In this game your on-screen alter ego is a reanimated corpse. Resurrected by a powerful godlike being whose daughter has been captured by an evil mage, this beefy zombie has been put together to rescue her.

The job's not an easy one because the mage has used his powers to create a variety of nefarious beasts — unicorns, boars, flying reptiles, head-hugging amphibians, giant rattle-snakes and other zombies.

A well-aimed blow from fists or feet deals with all these monsters, and one particularly worth maiming is the albino wolf. This two-headed canine releases a spirit ball which, when picked up, turns you into a highly developed zombie. This power can be further increased by collecting a second ball, which transforms you into a were-beast.

Flame-engulfing powers are required for the truly nasty end-of-level monster, who is in fact the mage in altered form.

Altered Beast in the arcades and on the Mega Drive is a most enjoyable jaunt, particularly in two-player mode. With only a single-player option available on the Sega, playability is instantly reduced. The scrolling and walking is slow, transforming the pace of what was originally a hectic game. A middling conversion of a nice coin-op.



£24.99 SEGA 43%

The hero, in all his forms, is very nicely defined and coloured but poor animation spoils the effect. Other sprites are less effective and the mediocre backdrops scroll slowly and jerkily. Plain music fails to generate any tension and the few samples are not that convincing.

VERSION UPDATES

AMIGA ■ ATARI ST
COMMODORE 64/128

Run the Gauntlet

OCEAN Amiga £24.99, ST £19.99, 8-bit £9.99 cass, £14.99 disk
Spectrum 88% — TGM017

Commodore first. If it wasn't for an annoying multiload Ocean could have cleaned up. Sprites galore move realistically with good definition, if lacking detail. The spray from boats and jet-bikes adds that extra bit of authenticity to the action. The land sequences work well too, simplicity of control method serving as the key to its success.

The 16-bits get the chance to show off with digitised pictures in between levels and sampled music to keep the game pace up and running. Had the gameplay been less 8-bit orientated, *Run the Gauntlet* may have offered quite a bit more in the way of depth. Attention to detail isn't very enhanced over the Commodore version — crisper sound effects and the odd better sample on the Amiga than the ST are mere formalities rather than significant improvements.

The lack of a dual-player option is something of a setback but *Run The Gauntlet* is still a great sports sim.

TGM update: Amiga 82%
Atari ST 80%
Commodore 64/128 78%

AMIGA

A Question of Sport

ELITE SYSTEMS £24.99
Spectrum 38%, Commodore 64 40%, Atari ST 42% — TGM015

The mixture of hi-res digitised portraits and colourful screen borders is identical to that on the ST, and unfortunately so is the music. For multiple-choice sports questions vaguely linked to fit the TV programme, A Question Of Sport is distinctly overpriced.

TGM update 37%

Hewson's hit action game goes 16-bit

CYBERNOID 2

Hewson ■ AMIGA £19.99, Atari ST £19.99

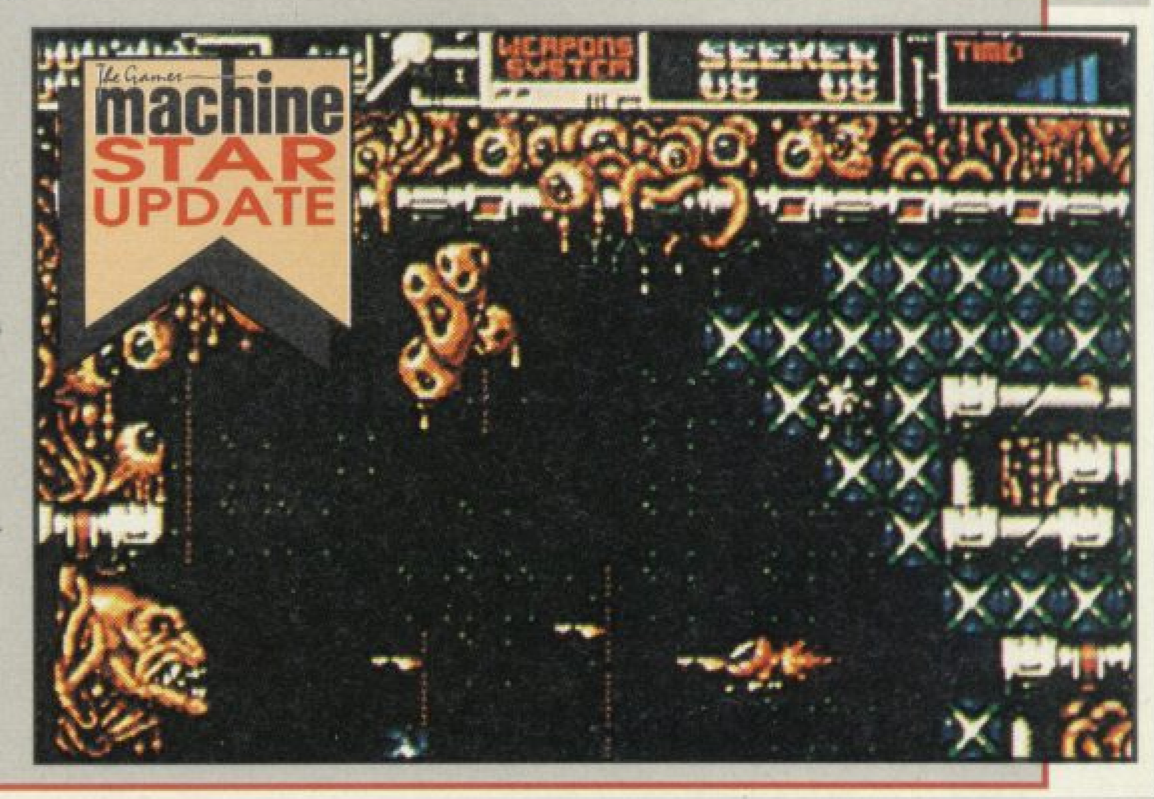
Spectrum 85%, Commodore 64 87% — TGM012, Amstrad CPC 86% — TGM013

Those Cybernoid 2 ships have been unleashed yet again — this time on the 16-bits. Tony Cooper has kept the ideas of the original 16-bit *Cybernoid* but gone to town on the presentation, action, challenge and alien-wasting carnage.

The nightmarish graphics feature blinking eyes, red-eyed skulls and other horrors. Progression is fuelled by ever devious traps and the action just gets more chaotic with each level. New features include acid drips and new levels though gameplay remains the same.

As a game, on the Amiga and ST, *Cybernoid 2* revolves more around all-action blasting than the puzzle/action cross-breed of the 8-bits, and both versions look great and play superbly.

TGM update: Amiga 88%
Atari ST 86%

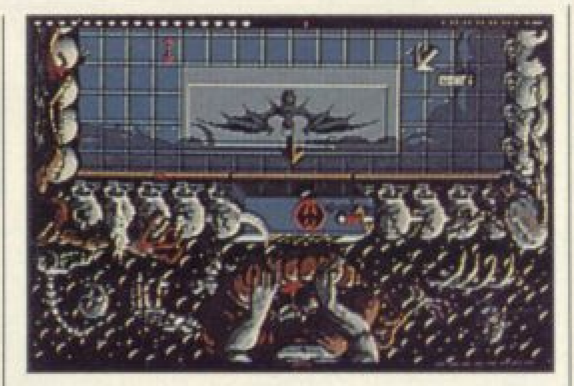


Marauding hasn't looked so good for a long time — *Cybernoid 2* on the Amiga

A whole new ball game from Psyclapse

BALLISTIX

Psyclapse



Psygnosis and their label Psyclapse got off to a good start with the brilliant arcade blaster *Menace*, followed by the similarly trigger-happy *Baal*, but slipped with *Captain Fizz Meets th Blaster-Trons* (reviewed last month). Now they enter the much-exploited genre of future sports simulation, and, thankfully, they've dispensed with any ideas of a pretentious and pointless plot.

The game takes place on a vertically scrolling pitch approximately two-and-a-half screens in length and the aim is simply to score a set number of goals (between one and five) before your opponent does. This is accomplished by hitting a puck with a supply of metal balls, aimed directly by an arrow, which enjoys the freedom of the playing area.

As well as determining the target number of goals and control system, the options screen can also be used to alter ball speed between one and eight, the number of balls available, auto repeat (the rate at which balls are fired if the fire button is held down) between zero and nine, ball lifespan (how long a ball is allowed to stay on the pitch before it's put back in the player's supply) between one and nine; and games to win, between one and nine, for two-player games.

Silver and gold/black arrows or cursors compete against one another in a two-player game, while in a single-handed game, the pitch tilts toward the player's goal, making gravity the enemy.

Progress is helped or hindered by pitch features which are introduced through the levels. Arrows accelerate the puck in the indicated direction, pits are revealed which, like acid puddles, mean the puck must be relaunched into the arena. Contours, hyperspace tunnels and bumpers affect the puck's path. Icons to be picked up can spread 16 balls all over the pitch, create a temporary barrier in front of a goal, spell out the word RICOCHET for bonus points, affect players' controls and so forth.

People have been known to instantly cry '*Speedball* rip-off!' when they see this game, but apart from sharing vertical scrolling they're very different from one another.

The crosshair control method is tricky but adds something to the game when you're properly accustomed to the easier arrow mode. This is not without its problems, though; because the arrow always points to the ball, when the puck is near your own goal it can be easy to knock it in yourself.

Criticisms aside, *Ballistix* is a fast, fun game, particularly with two players, with a wide variety of pitches (50 one-player, 80 two-player, the starting pitch selected in multiples of five) and a range of variable attributes — and of course, icons to pick up.



£19.95

Apart from different cursor designs, this is visually indistinguishable from the Amiga game, although there is slightly ostentatious presentation in the form of spinning 3-D joysticks and STs on the credit screens.

Back on top: Psyclapse hit the mark again with a hugely enjoyable 'future sport' game for the Atari ST (top and below) and Amiga (below left)



The Games machine
STAR PLAYER





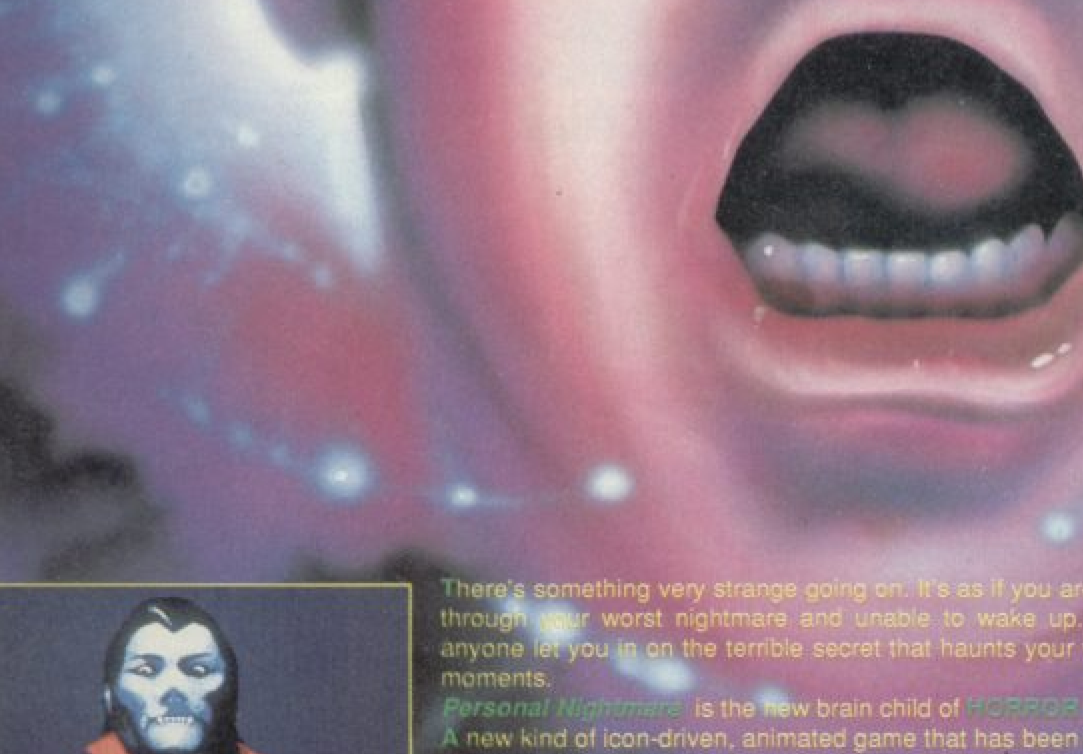
£19.95

A high-res picture unfolds impressively to introduce the game, which has quite disappointing graphics. The bas-relief pitch tiles (which vary in colour from pitch to pitch) are adequate, and have some interesting character graphics, but the arena graphics which surround it are almost scruffy. A pleasant array of samples back the fast, smooth-scrolling play nicely.

OTHER FORMATS

A Commodore 64 (and possibly PC) version is in the pipeline. Watch out for further details.

PERSONAL NIGHTMARE



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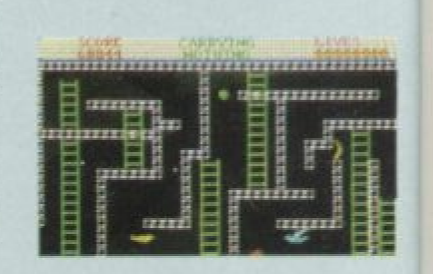


(Choccy Egg)

If you have played the classic computer game Chuckie Egg you hardly need an introduction to this "cracking" sequel, which takes us from the hen house to the chocolate Easter egg.

This eggcellent game is guaranteed to be salmonella free on your Amiga, ST or PC machines. It will give hours of entertainment and no matter how many times you unwrap the disc and sample the goodies it will neither make you fat nor rot your teeth!







CHUCKIE EGG II

Available on Atari ST/Amiga/Spectrum/Commodore/Amstrad soon on PC

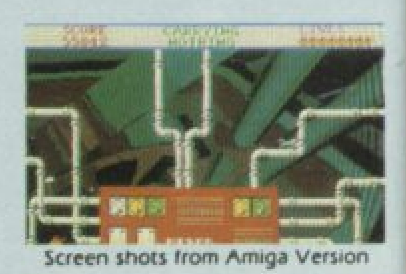
CHUCKIE EGG

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Screen shots from Amiga Version





Screen shots from Amiga Version



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Jailbird gets first release

PRISON

Krisalis

This first release from new software house Krisalis proves that sometimes life just isn't fair. This has been the case in the past, is still true now, and will be true in the 22nd century — the time that *Prison* is set. Jag Edwards is the put-upon hero of the tale. In a vile and corrupt world, he was one of the rare beacons in dark times, working undercover to uphold the crumbling law. A drugs bust was his last mission; a raid upon a bakery used as a cover for a narcotics ring.

Jag observed them for weeks before he was given the word. In a fiery battle, he eliminated the gang... only to be later captured. He had been set up, and was brought up before a Star-Judge, charged with the murder of ten bakers.

He was condemned to life imprisonment on Altrax, a lonely world, once a mining planet, now inhabited by gangs of various creatures. All have one thing in common — they have all committed violent crimes. And they don't mind getting more blood on their hands if it gets them something to make their life stranded on Altrax easier.

There is but one way to escape Altrax, and that's only a rumour. A pleasure ship had blundered into the planet's atmosphere, and its escape pod may have survived unscathed.

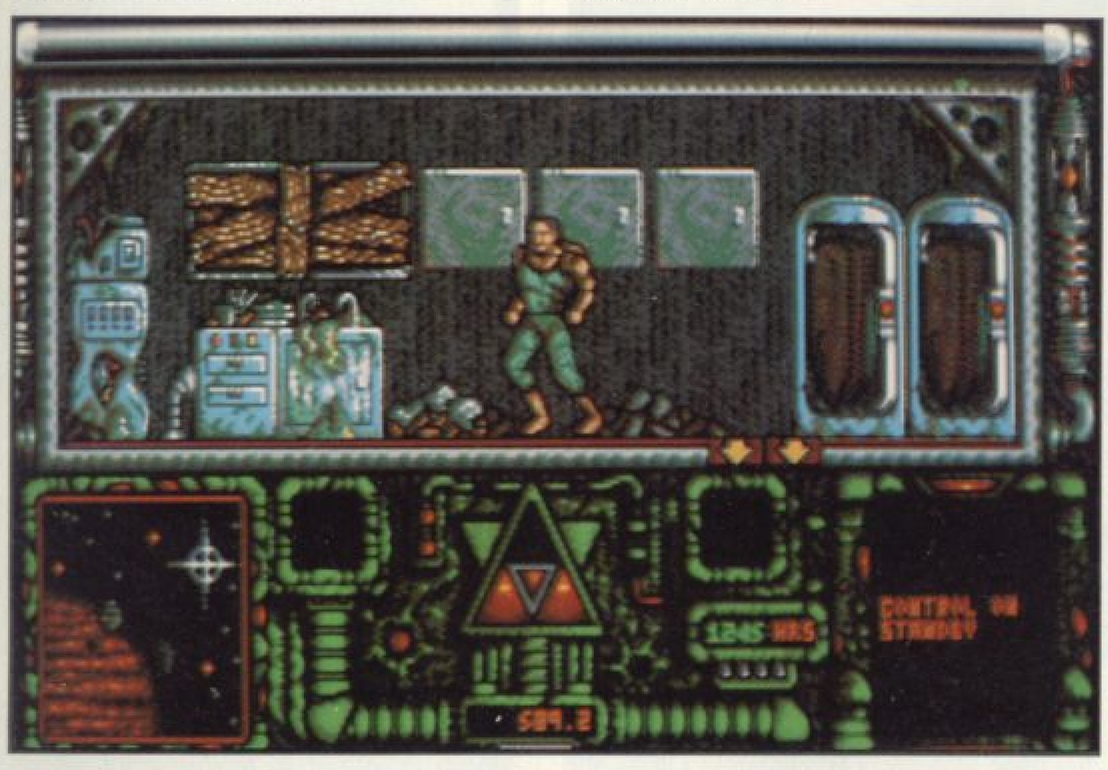
As you step into Jag's boots, he has begun the hunt for components that may be needed to repair the pod and other objects necessary for survival. A sideways viewpoint of Jag and the surrounding area is given, but marked doorways can be entered to follow paths at 90 degrees, the viewing angle then changes to retain the profile.

The playing area is supplemented by a number of displays, the most important of which is the menu window allowing commands other than those given by joystick control. Results of its use are displayed in the message 'tube', and lives, energy, objects carried etc are given elsewhere.

Aliens met are generally dealt with by fists and feet, but stooges are a different matter. If bribed, stooges can give useful information and objects...if you're lucky.

If Krisalis and programming team Teque are intending to make an impact with their first joint project they will be disappointed. The gameplay has been seen before: using objects to give access to new parts of the game, aliens hindering progress (though in this case they're easy to eliminate) and masses of similar looking screens so that it's quite easy to get lost.

Prison is little more than a standard arcade adventure in a tired format so that no amount of fancy graphics and sound can help generate anything but very limited interest.



Familiar, strong Teque graphic style on the ST, but a weaker game

ATARI ST 66%

£19.95

The Teque graphic style is strong here, with browns, greens and greys blending to make clear, effective and eerie backgrounds. The upper half of the Jag sprite is well defined but his legs are ill-proportioned and curiously flexible as Mr Edwards is mechanically animated. The samples are weak — both in definition quality and in sound source.



£19.95

Looks very similar to the ST, except that the colours are paler and the definition is a little different. The samples and music are of a better quality and add some atmosphere.

VERSION UPDATES

AMSTRAD CPC
ATARI ST

Victory Road

IMAGINE 8-bit £9.95 cass, £14.95 disk, ST £19.95

In the space equivalent of *Ikari Warriors* and the third in the series, one or two warriors rampage along



Victory Road armed with space age weapons frying hordes of ETs. ST owners may find the action slow at times but the larger number of aliens keeps the pressure on. Things are a lot better on the Amstrad (pictured above) with smaller but equally detailed, colourful graphics and a bigger playing area to match, in turn the gameplay improves although the ideas behind it are unoriginal.

TGM update:
Amstrad CPC 70%
Atari ST 55%

COMMODORE 64

Warlock's Quest

INFOGRAMES £9.95 cass, £14.95 disk

Atari ST 70% — TGM007

Very much a natural for the Commodore, this teleport-and-ladders graphic adventure has undergone a strange mutation on the Commodore and now boasts unnecessary multiload at selected points in each stage. The division of the screen into above and below ground sections is novel, but suffers with small sprites (which were less of a problem on the colourful ST version) and a dearth of animation or character detail. Warlock's Quest looks tired and plays tired.

TGM update rating 43%

SEGA

California Games

£24.99

Fifth in the Epyx Games series, *California Games* is the coolest, most rad collection of events Epyx have gathered together. Events are as on previous format versions: free-style skateboarding on the half-pipe, footbag — or keeping a small leather ball in the air, surfing, roller-skating, frisbee throwing, and BMX racing. In the translation to the Sega joypad, little has been lost. The graphics are very good indeed. Backgrounds are as lively as the colourful, well defined sprites and the various participating teenage characters are realistically animated. Definitely one for the collection.

TGM update 78%

PRESS ANY KEY



Getting 'em off in style means more than five card stud

HOLLYWOOD POKER PRO

Feline Software





AMIGA 72%

£19.99

As if all the full screen piccies weren't enough there's even a pervy magnifying glass feature which lets you scrutinise the female form in true dirty raincoat style. What a classic product this is. Great cards, amazing visuals, politically dubious and guaranteed to offend just about everyone. Enjoy it while you can.

OTHER FORMATS

Unfortunately, the reviewer responsible was unable to devote any playing time to discovering whether Feline intend any further versions...

Worrrrrrrrr! Cor blimey, we ain't had this much fun since ogling at Sam Fox's digitised pics in *Strip Poker* and getting steamed up over Maria Whitaker's Christmas Box. Spectrum owners and strip poker go back a long way — but not with this kind of digitised graphic!

In fact strip poker games are almost as common as sports sims, but this one is really the best — with knee-tremblingly arousing graphics and a mean game of cards to leather boot. No touched-up graphics here, it's all touch-upable solid nubile flesh — and you don't have to suffer the interminable giggling of the Teenage Queen either. And to top it off there's a great, pulsating soundtrack too.

It's all familiar stuff — choose one of four ready-an'-willing girlies, click-on the cards you want to keep or chuck away, bet, raise, and hopefully get a right royal flush.

The only problem with *Hollywood Poker Pro* is the feeling you get that the computer's cheating. Bad play or not, there are a suspiciously high number of duff hands dealt on anything but the introductory clothing levels and, correspondingly, an awful number of good hands going to your opponent. This just ain't good cards, because the tendency to be continuously dealt low numbers repeats itself to a point beyond simple chance.

Well, maybe that's sour grapes as a result of sheer frustration, but there are ways to get to the bottom of things. One technique is to always bet safely and throw anything else away immediately. Oh — and never risk raising thinking your opponent is bluffing — these girls mean business!



They may have been rather a joke in the past, but Feline's *Hollywood Poker Pro* is a strip poker game with a difference — the cards ain't half bad! Not to mention the steamy graphics, which of course we won't..

Bored game from Atari

BACKGAMMON

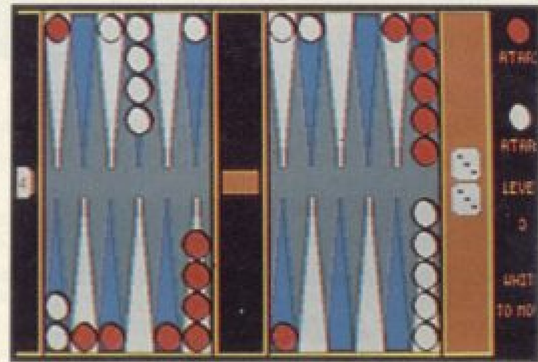
Atari

Latest in the Atari Mindgames range is the computer rendition of the classic board game. Unlike Chess — or even Go Moku, Backgammon is one of the more esoteric games in that very few people seem to know how to play it!

Whilst some people might buy this product to learn how to play the game, the majority will already know how it's played. For these, the age-old question must be addressed: how is the computer version better than the board game?

One advantage of course is that you don't need anyone else to play with — a dubious benefit maybe, as many other board game conversions testify. The graphics are plain and simple, the mouse clicking on counters adequate, the roll of the dice slow. Of sound there's nothing, but then Backagmmon has never exactly been an orgy of aural pleasure.

Good to brush up your gaming ability maybe, but ultimately there's more fun to be had on the real board.



ATARI ST 53%

£19.95

The standard options are here, such as ten levels of play, action replay facility, and take back and restore the last move, making Backgammon **an adequate but dull implementation.**

Clean up Old Detroit in style

ROBOCOP

The Games machine STAR UPDATE

Ocean Amiga £24.95 ST £19.95

Commodore 64 77%, Spectrum 81% — TGM015

Ocean should really congratulate themselves, for what was excellent on 8-bit formats has undergone a remarkable metamorphosis to be reborn with samples, digitised pictures, superb presentation and all the other extras that boost it far beyond being just a very good entertainment.

With a perfect blend of the gameplay from the 8-bit and arcade versions, RoboCop is incredible for what it offers. The levels may be relatively short but the attackers keep on coming. The best is left till last with a well animated ED-209, the criminal's truck and others at level's end. The shooting gallery, hostage scenes and the photo-fit sub sections (the latter using scrambled digitised pictures) all contribute so much to the gameplay and atmosphere. The ST matches the Amiga in the scrolling department boasting six levels packed with graphic variety. The Amiga game comes out better on all counts with the inevitable advantages of smoother graphic definition and superior sound effects, but the gameplay remains the same on both machines.

This game is simply brilliant.

TGM update: Amiga 90%
Atari ST 90%



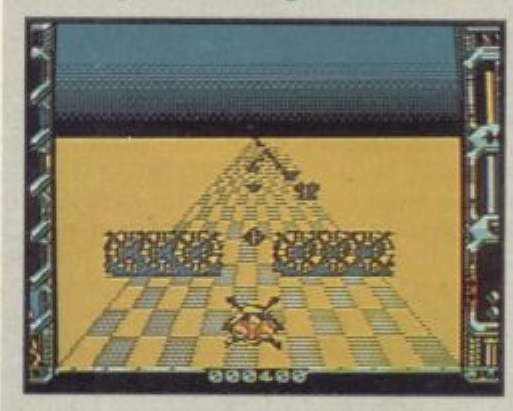
SPECTRUM

Eliminator

Hewson £7.99 cass, disk £12.99
Atari ST 92% — TGM011

The astmospheric baseline and effects of the ST version are accurately reproduced along with the swift and effective 3-D 'road', albeit in monochrome. Aliens move smoothly and their missiles are easy to see, but the simplicity of movement options puts a question mark against the game's longterm playablity.

TGM update rating 79%



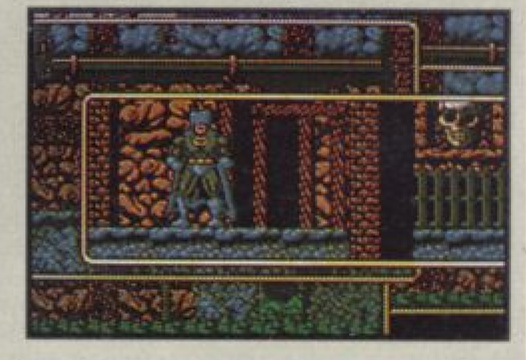
AMIGA

Batman

OCEAN £24.95
Spectrum 76%, Commodore 64 71% — TGM015, Atari ST 72% — TGM016

The Dark Knight returns to 16-bit. Graphic definition is identical to that on the ST but colours are subtler. The *Batman* music remix uses some nice sounds and with a few sampled sound effects, the soundtrack is very effective. This is the best presented version yet of this comic licence.

TGM update rating 74%



COMMODORE 64/128

Blasteroids

IMAGEWORKS £9.99 cass, £14.99 disk
Amiga 71%, Atari ST 70%, Spectrum 61% — TGM017

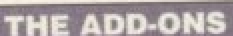
Although lacking quite a bit in new ideas, *Blasteroids* is immensely satisfying to play — doubly so in two-player mode. The simplicity and immediate playability of the game is its saving grace and makes up for graphics which are functional rather than aesthetically pleasing. If you feel up to playing *Asteroids* all over again, or adore the coin-op, *Blasteroids* could very well be worth your while.

TGM update 65%

PRESS ANY KEY

The man whose head exploded

DNA WARRIOR



Artronic

Professor Szymanski is a brilliant but power-crazed man. A Nobel Prize in genetics was not enough for him, and in an incredible experiment he injected DNA and a growth accelerator into his brain, thinking this would increase his memory potential and intelligence quotient tremendously. Now he is on the brink of death.

Szymanski is in a coma and his brain is expanding to dangerous proportions. A growth inhibitor cannot reach the affected area — his natural defences have mutated too far — so a miniaturised one-man submarine must be piloted to the spot. So far so Azimov and Steven Spielberg et al...

The Professor has a number of artificial limbs and organs, so the various sprites which attack the would-be body voyager include both biological and mechanical mutants. Your ship's rather tame laser cannon and slightly cumbersome handling can be exchanged for better add-on systems by collecting plasma spheres.

In the crowded world of shoot-'em-ups, *DNA Warrior*'s originality lies in its horizontal two-way scrolling and selectable exit levels which allow a choice of route to the brain. This isn't much use if the game is essentially lacking in guts, and unfortunately, it is.

THE ADD-ONS

One sphere: extra manoeuvrability
Two spheres: rapid fire cannons
Three spheres: vertical cannons
Four spheres: multiples
Five spheres: absorption shielding
Six spheres: 'starburst'
Seven spheres: energy replenished

C64/128 62%

£9.99 cass
£14.99 disk

Bright graphics are neatly defined but short of detail, while funky music makes up for weak sound effects. It's all quite competently done but games like this have been seen endless times on the Commodore — and several at budget price.

OTHER FORMATS

An Atari ST version will be released shortly.

SPECTRUM 51%

£9.99 cass

The definition of this version is weak and unthrilling, and the problems are compounded by the game's slow pace. The sub floats around as if in treacle rather than bodily fluids (yehkk!). The beep sounds effects are simple even for the Spectrum



£19.99

The sub is surprisingly large and makes evasive action a chore on occasions. The Amiga's capabilities are decidedly underused, with definition at best adequate and at worst infantile and shades of the same two colours used throughout a level.

Who ya gonna call this time?

THE REAL GHOSTBUSTERS

Activision

The cartoon gained the 'Real' prefix because it's supposedly based upon real people. And they're a strange bunch, too. The leader, Peter Venkman, is a bit of a slob and a fool, but enthusiastic idealist Ray Stantz makes up for this with his extensive scientific knowledge. In the particular field of electronics, Egon Spengler is a genius — but he's also a complete nerd.

Winston Zeddmore is the most down-to-earth of the 'Busters but is also the overly kind soul who got Slimer — a greedy green ghost — onto the team. The secretary, Janine Melnitz, tries to keep order amongst this wacky bunch. A build-up of psychic and paranormal energy has resulted in an outbreak of ghostly manifestations throughout New York. The terrorised public need the kind of specialised help that only Ray, Winston, Peter, and Slimer can give them.

One or two players guide the Ghostbusters upwards through ten multi-directional push-scrolling levels, armed with both guns and proton beams. Shooting turns creatures encountered into ghosts, which can then be gathered into the Ghostbusters' back-packs with judicious use of the limited-charge proton beam.

Some creatures or obstacles give bonuses: increased beam energy, increased shot power, aura power (temporary shield), or Slimer. At the end of each level a particularly nasty abomination (or worse, a number of them) has to be neutralised. In return, the key to the next level is given. It's interesting to see which weird monsters occupy the next level, particularly as some are so imaginatively designed. The home computer versions are sure to be — and deserve to be — more successful than the obscure 1987 Data East coin-op on which this vertically scrolling shoot-'em-up is based.

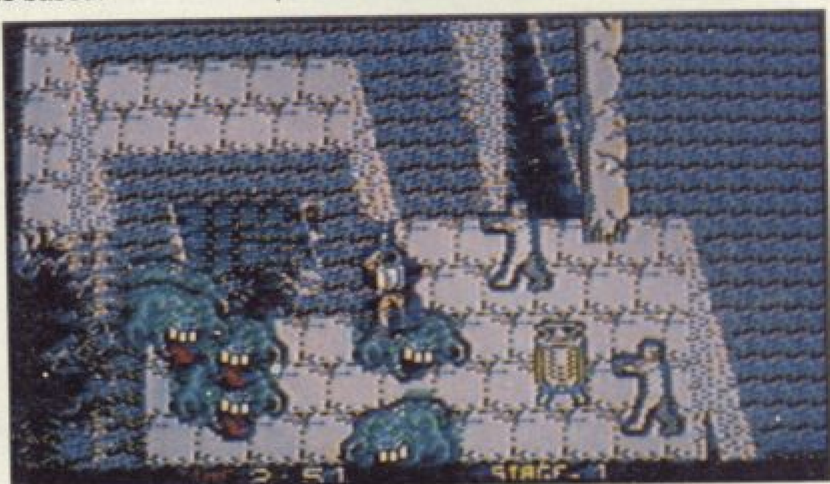
SPECTRUM 86%

£9.99 cass only

The main sprite is outlined thickly and unattractively in black. On the other hand, some of the creatures are very well defined and animated, and use colour cleverly — almost as near to cartoon graphics as you can get on the Spectrum.

OTHER FORMATS

Amiga (£24.99), Atari ST (£19.99), Amstrad CPC and Commodore 64 (both £9.99 cass, £14.99 disk) shoukld all be available by the time you read this review.



Activision gave us the best-selling computer of all time (they claim) in the original *Ghostbusters*, but on the Spectrum, at least, this newer version is much better received critically

Thundering, Yorkie-eating action

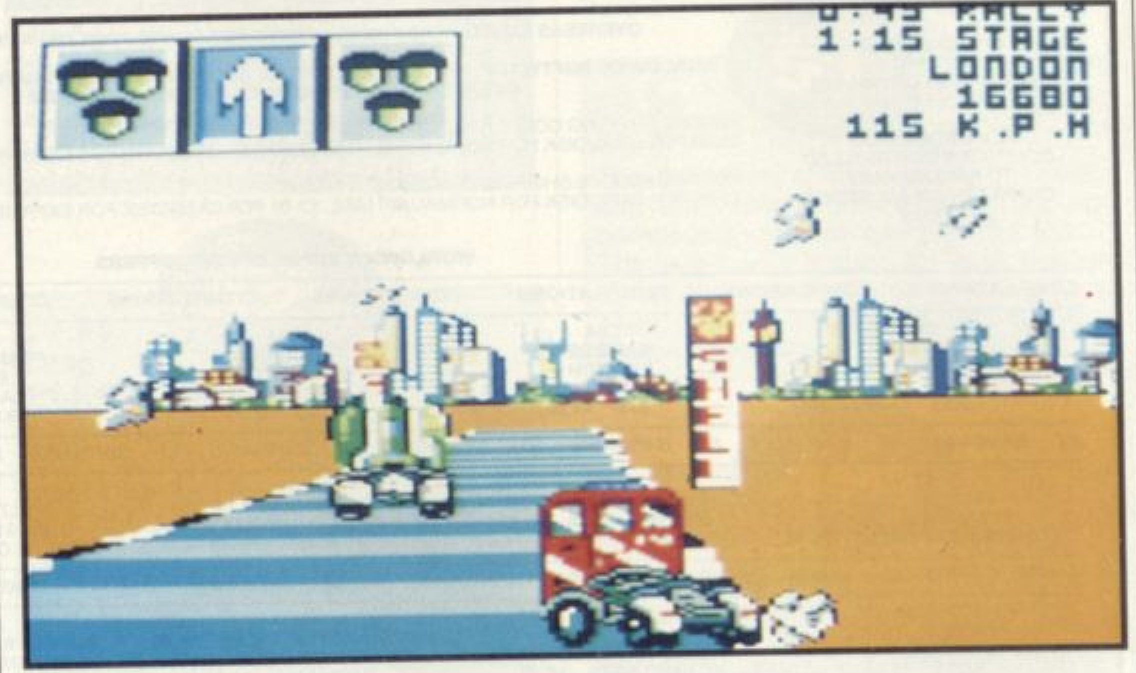
SUPERTRUX

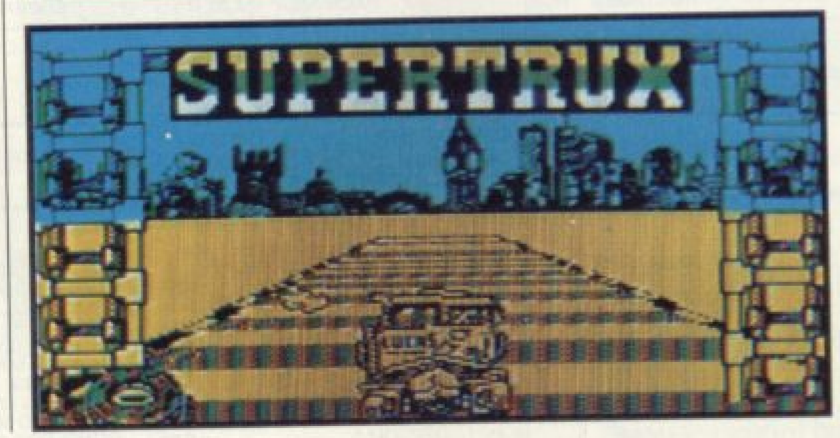
Elite Systems

Most lorry drivers simply transport goods and scare the hell out of motorists in the fast lane, but your average Supertrux driver is made of stronger stuff. These boys don't want to drive — they want to race! The biggest and best truck race is the Supertrux Trophy, a trans-Europe event taking drivers from London to Athens, via many famous cities on the way.

All participating trucks have automatic gears, so it's simply a case of accelerating, decelerating and steering. This doesn't mean the race is easy — just staying on the course is a higher priority than taking the lead. But twisting roads with unexpected dips and slopes, and other vicious truck drivers are only part of the problem. The organisers of the Supertrux Trophy race are obviously imcompetent, as the route they have chosen is strewn liberally with roadworks. All in all it's going to take some mean driving to complete each stage within the testing time limit.

Simulating a race between 30-ton trucks could hardly be called as easy task, but Elite have decided to produce a relatively simple *Out Run* variant, with truck sprites thrown in as vehicles. On all formats the perspective of curves and slopes is fairly effective and the route through Europe is varaiable. Not only can you choose the city you head for, but also in mid-stage you have to choose between two types of road — slippery or bumpy, for example.





An *Out Run* with lorries seems like a hefty task, but capitalising on their 'hidden valley' technique, Elite have come up with a lively enough game for all three popular 8-bit formats (Amstrad CPC above, Spectrum left and top right)



£9.99 cass
£14.99 disk

The perspective of the road is fine but roadside features approach jerkily. The graphics use the common gaudy Amstrad colours, and the soundtrack uses the common annoying Amstrad effects. Nevertheless, this is a playable CPC racer.

When diplomacy fails...

TANK ATTACK

CDS Software

CDS — now primarily retailers — go back to the earliest days of Spectrum gaming, and they aren't unfamiliar with the concept of combining computers and board games — Brian Clough previously signed up with them to make his *Football Fortune* — *Tank Attack* is one such.

The scenario involves four countries bordering one another. Armania, Kazaldis, Sarapan and Calderon maintain an uneasy peace, but this is about to end abruptly. Mechanised forces are crossing the borders and the shooting is about to start.

Depending on the number of players involved, two countries can form an alliance against the other two, or all four countries can war against one other. Each has its own division of tanks (light, medium and main battle tank) and armoured cars (light and medium).



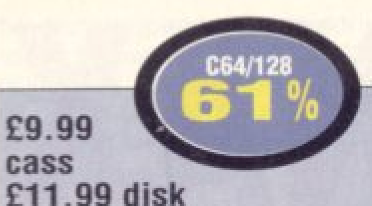
More board than computer game

Offensive tactics aren't all, the headquarters of each country must be defended, since the objective is to reach the enemy's HQ and remove it from the war. Each country also has a repair depot to remove the dents from tanks damaged in battle together with a rebuilding yard for no-hope cases.

The computer plays the role of game moderator providing details of battles, weather conditions (which affect movement), troop morale and activities in the form of the newspaper War News. All variables which play a part in the game are determined by the computer, including the amount of movement possible per turn and the results of combat.

Terrain plays its inevitable part, restricting tank movement in certain regions, and confrontation takes place using line-of-sight rules, the outcome depending on target range, strength and other variables.

Like *Football Fortune*, *Tank Attack* is primarily a board game, the computer is only used as a moderator and the emphasis is thoroughly on boardplay. The 2-4 player rule backs up the hexagon-based board game, and so its appeal may not be immediate.



£9.99
cass
£11.99 disk

The truck sprite is blocky, the track bland and featureless, and the horizon barren, but the screen update is quite good. The hills effect is worst on the Commodore, but has the amusing additional feature of road cones flying through the air when you run into them. Both the music and effects are basic.



£7.99
cass
£12.99 disk

For some reason, the road doesn't reach the horizon and the stripes on it move illogically, but the screen update is good once the truck gets up speed. The effect of going up and down slopes works well with its growing and shrinking lower border. Quite similar in look to Imagine's WEC Le Mans, **the Spectrum version is the most playable so far.**

OTHER FORMATS

There's a chance that 16-bit versions will be produced, but not until this time next year.

The mechanics of play are easy to grasp but there's no real reason why the game should be so simple...an attempt at appealing to both mainstream computer owners and board game enthusiasts perhaps?



£12.99
cass
£14.99 disk

The computer is used for nothing more than the simple purpose of refereeing the game, but presentation is first class and very user-friendly with animation sequences and detailed graphic accounts of conflicts as they occur. In this respect Tank Attack **is a better game than most previous marriages of computer and board game, and offers a whole new set of ideas for strategy gamesplayers.**



ATARI ST

Cosmic Pirate

OUTLAW £19.99
Amiga 82% — TGM017

This version of the spacetruck-hijacking blaster is a strange fish compared to the Amiga original. The asteroids surrounding the hyperspace beacons are animated (albeit unspectacularly in four frames) and the galactic sector map scrolls diagonally, flashing with colour before you make selection. However, the in-game scrolling is in pronounced update steps, so that against the grid of a simulator the spaceship appears to move backwards. And in all games alien movement could be a lot smoother.

Otherwise reasonable definition falls down on the jerky and blocky spacetrucks, while the ST's restricted colour capabilities mean missions are mainly in shades of the same colour. The soundtrack imitates the Amiga's well, but on the whole ST *Cosmic Pirate* falls short of the high quality original.

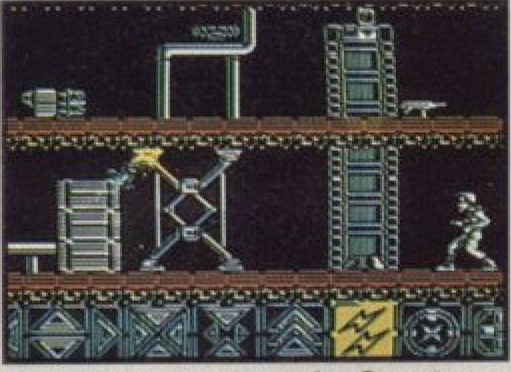
TGM update 76%

AMSTRAD CPC ■ SPECTRUM

Obliterator

PSYGNOSIS £9.99 cass, £14.99 disk
Atari ST 65%, Amiga 70% — TGM007

As was the case with Psygnosis's *Barbarian*, *Obliterator*'s appeal lay with the quality of graphics and sound on the 16-bit originals.



Tougher controls make Spectrum Drak harder to manipulate

Drak is blocky on the Amstrad, animated badly and slowly, against backgrounds of a bright and jagged appearance. On the Spectrum, the hero walks strangely but smoothly, and despite some clash, the graphic detail is adequate. The Amstrad music and effects are annoyingly crude, but although the Spectrum's music is monotonous, its sound effects are very good.

The real problem with 8-bit *Obliterator* lies in its control system. Because the icons are cycled through using up/down, this slows the speed at which you can react — and it's also easy to accidently change a selected icon. This is a large but ultimately unthrilling 8-bit game.

TGM update:
Amstrad CPC 56%
Spectrum 61%

VERSION UPDATES

AMIGA

Goldrunner II

MICRODEAL £19.99
Atari ST 65% — TGM008

Ultra-fast, horizontal scrolling reworked variation on Defender, the Amiga Goldrunner II has been a long coming. Other than a pleasant tune there's little in the final product to suggest any improvement over the ST game. Indeed the scrolling — the main selling point — comes out worse, crawling along if too many characters are on screen. An above average game if only for different gameplay and the good quality of backdrops.

TGM Update 58%

ATARI ST

Bismarck

PSS £19.99

This recreation of a World War II naval battle was good in its day but, frankly, it should have stayed on 8-bit. The arcade sequences which are meant to cut across the strategy/arcade divide fail on all counts, with jerky animation and dismal graphics, and the simplistic strategy is poorly implemented. A weak translation of a creaky idea.

TGM update 33%

AMIGA ■ SEGA ■ SPECTRUM

Vigilante

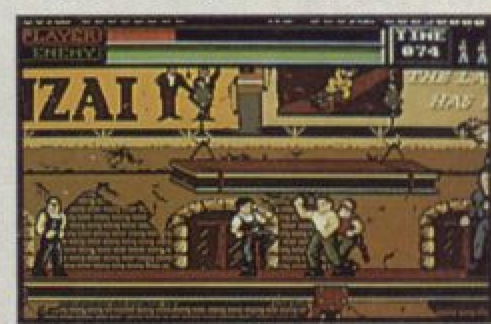
US GOLD 8-bit £8.99 cass, £12.99 cass, 16-bit £14.99, Sega £24.95
PC Engine 75% — TGM017

Spectrum *Vigilante* comes across extremely well. The graphics may be missing some finishing touches but the gameplay's all there. Attacks come hard and fast — often too fast.

The Sega game almost matches the PC Engine conversion, its graphic artists have gone to town on the backdrops with good looking sprites to match. Pricey, but as much fun to play as the others.

The Vigilante character has been shrunk on the Amiga to keep the playing area in proportion, resulting in some graphic detail loss. But gameplay stands up well in that the Vigilante has a better chance of rescuing Madonna. On the minus side, the limited number of moves Vigilante can make narrow the game's scope, but then the arcade version wasn't too hot on gameplay either. Still, *Vigilante* is bread and butter for the 8- and 16-bits and proves immediately playable and strongly challenging.

TGM update: Amiga 78%
Sega 80%, Spectrum 79%



Amiga: shrunken but vicious...



SOFTWARE SNAX

We at THE GAMES MACHINE know you want the best in games reviews. TGM *is* the very best source of multi-format reading your money can buy, but in the constant search for ever better ways of presenting reviews, we don't rest on our laurels! That's why in this issue we've changed several things.

Software Snax is the section for short reviews. Space has run out on us! So many great titles are being released every month on all the various formats that we have had to create this new section to give us room to fit even more reviews into the allocated space.

But just because they're short doesn't necessarily mean we think they are rubbish. Oh no. Check out Battlehawks 1942 right next door. Software Snax is where you will find those games which fell in between our schedules (which means they might be just a touch late) or those that came in so late we couldn't fit them in the main review section (which means they're incredibly early!).

Here too are the better releases which are intended to cover most popular formats, but the first machine release is well ahead of the others. When this happens and something is really good — watch out for a Star Update in later issues!

WHO FRAMED ROGER RABBIT

Mediagenic ■ Commodore 64/128 £xx.xx

Action! Danger! Excitement! Well that's what it says on the box. Great shame then that the computer version of the fabulous movie is an example of the well known adage 'film licences do not necessarily a great game make'.

Roger Rabbit follows three sequences from the film: Benny the Cab, The Ink And Paint Club and The Gag Factory. First off, you guide Toon car Benny along a horizontally scrolling road, avoiding pits and other vehicles. The Ink Club sees Roger racing around tables picking up objects (if you've seen the movie you'll know what happens



Great presentation, Roger, but too easy even for a Toon to play

when he drinks liquor!), and in the final section Roger picks up gags and uses them to slow down pursuing weasels.

The graphics are crude and blocky and

The rewrite of history goes on

BATTLEHAWKS 1942

US Gold/Lucasfilm ■ PC £24.99

Apologies for being a bit late with this one, we were really hoping to go to town with all three 16-bit versions, but the ST and Amiga games (both at £24.99) are still awaited...

Lucasfilm, creators of the legendary Fractal-based games and providers of naval war simulators have reached for the skies with *Battlehawks 1942* to recreate the dogfights and attacks on carriers between Japanese and American forces which made wartime history.

Rather than follow MicroProse with their one-sided battles, Lucasfilm's program allows for planes of either side to be flown.

Four historic conflicts have been computerised, including the Battle of Midway in which three Japanese carriers were sunk in ten minutes. The missions have been faithfully recreated as a starting point for you to rewrite history.

Depending on which out of 32 missions is chosen, a dive bomber, torpedo bomber or fighter may be flown, each with their own attack.

Rookies had best gain flight experience through the all-missions training option. Those with more confidence can go straight into active service, and levels of fuel, ammunition, plane strength and enemy skill can be altered prior to the battle.

While the game aims to be a combat simulator it's a relatively simple game in terms of flight controls and actual flying. Battlehawks has a replay camera option whereby battles are replayed showing your plane from a spotter plane as it goes into the attack.

The enemy isn't restricted to fighter planes (be they Japanese Zeros or American Wildcats). The carriers are armed to the teeth and willingly throw AA shells at you and the others in your squadron. Suffer too many hits and there's not a lot left to do but bail out.

Some planes you may choose have a rear gunner and things become doubly difficult at this stage as you keep one eye on the correct course to a target and the other on the rear guns to fend off fighters. At only 70 feet above the water, shooting at Zeroes, dodging flak and trying to avoid hitting the water you've really got to be on the ball.

With *Battlehawks 1942*, Lucasfilm have produced a potentially excellent combat simulation. The action is accompanied by some extremely neat graphical touches — flak bursts all around, planes belch smoke when hit, others explode and dive into the sea, ships go down amongst massive explosions and plumes of smoke. It all



the game's speed is inappropriately slow or fast in the wrong places. A glossy package includes a 'gag factory catalogue' and a full-colour poster. A lovely presentation let down by a feeble game — sorry Roger.

TGM rating 42%

CHASE

Virgin Mastertronic ■ ST £9.99
AMIGA £9.99

Zapp, Kapow, splurrangg — *The Empire Strikes* back meets *Starstrike* in this Mastertronic 16-bit budget offering.

It's a four-level, vector graphics space shoot-'em-up, in which you guide a spaceship through asteroid fields, bewteen tall towers and along tunnels made up from moving squares before zipping along an obstacle-strewn corridor as in the famous *Star Wars* Deathstar sequence.

The reason for engaging in all this heart-fibrillating excitement is to pursue a frustratingly elusive blue ship which does its best to prevent you (the iron-willed pilot according to the inlay blurb) from blasting it into so many pixels.

Mouse control on both formats is very responsive, the graphics are fast and smooth and the sound — particularly the Amiga's rich, booming explosions — is very satisfying.

Graphically there's very little to tell the two versions apart, but the Amiga game is much tougher to play, making ithe more frustrating of the two.

There's no denying that this is a real old mishmash of famous games, but in the still-high-cost 16-bit market at its buget price it ain't half bad.

TGM rating: Atari ST 68%
Amiga 63%



Mishmash: a mixture of more famous games than you can count on one hand, *Chase* still remains a reviewers' favourite blast at its low 16-bit price



helps recreate the tension and exhilaration of air combat over the Pacific.

But it isn't perfect: the aircraft graphics are small, indistinct and slow moving (especially on the lower end PCs) but move realistically enough. Despite periphery screens which use EGA well, the game itself looks essentially like a Commodore 64 game — something Lucasfilm have yet to rectify — and sound effects are very much PC (enough said).

And the atmosphere is let down to a degree by the omission of take off and landing sequences. Attacks against land targets would have been good as well. Without these demands the game's limitations begin to emerge, and as such *Battlehawks 1942* falls just short of being a comprehensive combat simulator.

TGM rating 75%



BORODINO

Atari ■ Atari ST £19.95

First in Atari's Battlescapes series, *Borodino* involves the would-be wargamer in a computer simulation of the bloody and protracted conflict which took place in 1812.

Napoleon's invasion of Russia ended in a disastrous retreat from Moscow. One of the key factors which led up to this was the failure to win more than a moral victory when his 131,000 men met 120,000 Russian troops at the small town of Borodino, some 70 miles west of Moscow.

You can play either Napoleon (surely any healthy megalomaniac's dream) or Prince Kutusov leading the Russian defence, playing against either a computer or a human oponent. The battle terrain is shown in 3-D perspective, and by clicking on troops and other ground features you are informed as to their status.

Borodino employs a unique battle command structure which involves typing instructions directly into the program, such as 'look west from Borodino' or 'Ney order one infantry division and your cavalry to move to Utitsa'. Be especially careful when entering commands — if they're too vague you could end up sending an entire army into the jaws of death!

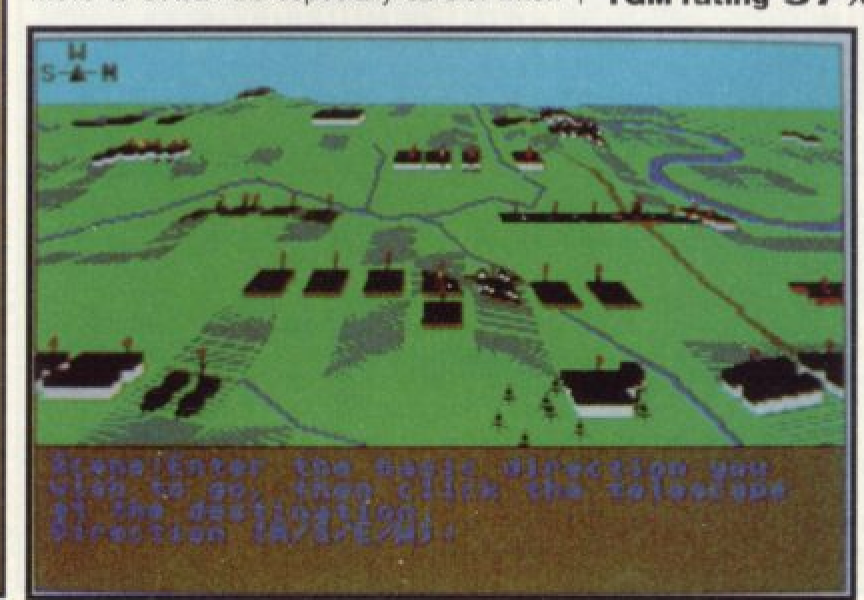
Corps can be given orders to stop giving or taking support from another division, battle reports can be obtained and defensive or attack lines set up.

Historical orders can be followed or dispensed with, hilighting the educational value of this program for scholars of the 'what if' school of play. Additionally, graphics can be saved in *Neochrome* format for later use, and by saving the game data every move it's possible to convert *Borodino* into a play by mail game.

For die hard wargamers, *Borodino* makes an attractive program Graphically it's nothing special, but then neither was *Universal Military Simulator*, and it must be said that the latter is a much more flexible program. But if you really want to be Napoleon, *Borodino* could just be your Waterloo.

■ Watch out for *Armada*, *Trafalgar* and other titles in this series, and TGM's special feature of wargames in the near future.

TGM rating 57%

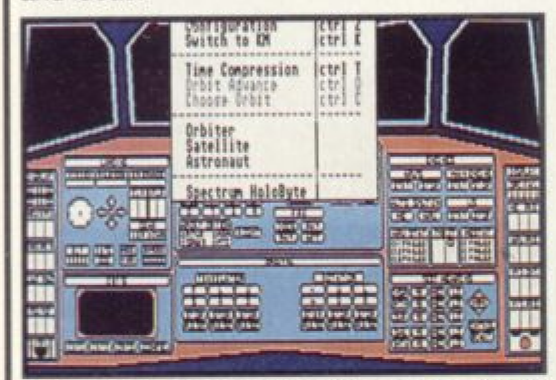


Battle for Borodino — in a sense the turning point of Napoleon's Russian campaign. *Universal Military Simulator* it ain't, but *Borodino* might please your average armchair dictator

ORBITER

Mirrorsoft/Spectrum Holobyte
Atari ST £24.99

Space, the final frontier and the setting for a round-the-earth trip in the Space Shuttle Orbiter. It may be from the makers of *Falcon* but this 1986 product is from the early days of the ST both in presentation and ideas.



Repetitive and often tedious detail is *Orbiter*'s trade mark

From launch through satellite deployment, recovery and landing, *Orbiter* recreates in repetitive and often tedious detail the technical side of commanding a space shuttle. Indeed, so much emphasis has been placed on simulating the controlling of the craft's systems that the flight simulator element is non-existent. The largely monochrome graphics hark back to the Mac original — and they should have stayed there.

This might be a unique program but it really is designed for hardcore simulation fanatics only.

TGM rating 47%

JUG

Microdeal ■ ST £19.99

Is the planet Spiraeus dying? Yes it is — eaten away from its very core by mutants. And it's your job to make 'em spit out the pips. Flick-screen caverns — divided into zones and sectors — are traversed in a JUG titanium exo-skeleton (going cheap through *Exchange and Mart* this month), which can be updated by picking up different weapons. Fuel decreases when in flight, but capsules can be collected to replenish it, and teleportation booths take you rapidly from one screen to another.

The flip-screen mazes and metallic adversaries instantly remind of *Cybernoid*, but the game is in fact simpler than Hewson's classic: more of a simple exploration shoot-'em-up, with fewer weapons.



Going for the JUGular — plenty of dodging, but keep an eye on your fuel level

The sheen on the mutants looks effective, especially in combination with the animalistic definition and amusing animation on some. Equally good is the metallic effect on the mildy impressive weapons transformation sequence. Plain bas-relief backgrounds are highlighted by well-drawn skeletal monster corpses.

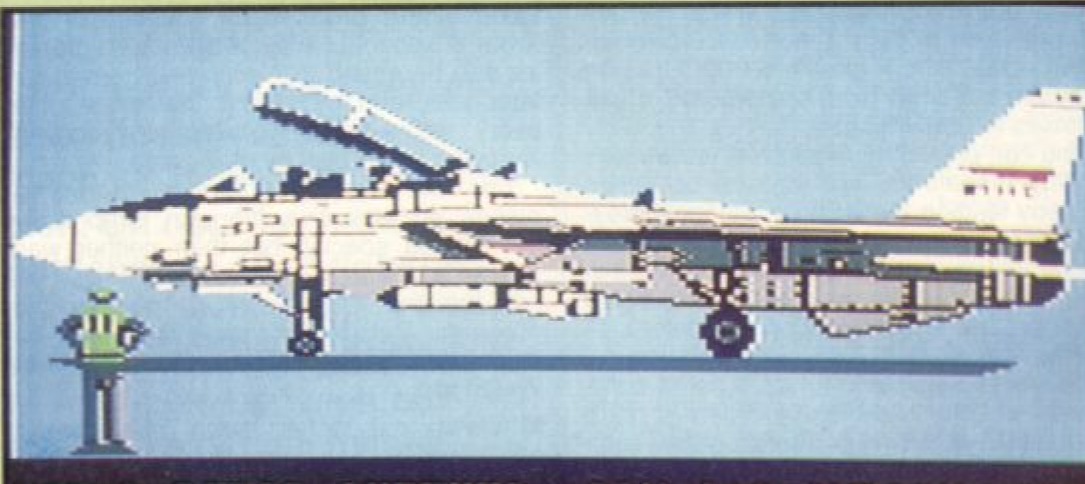
JUG offers a few hours of fun but it's nothing to get excited about.

TGM rating 66%

Toward Top Gun

F-14 TOMCAT

Activision ■ Commodore 64 £14.99 disk only



From flight training to active service on the Nimitz and then onto the Top Gun School, *F-14 Tomcat* charts the progress of would-be Tom Cruises and after all, who wouldn't be?.

F-14 Tomcat follows the MicroProse lead with detailed peripheral screens but differs in keeping in-game presentation to a minimum. The enemy jets move awkwardly and while fast-paced gameplay is present, there's litle attention to detail. A green ground or blue sea and blue sky is all there is to see for much of the time.

It is highly unlikely that MicroProse will lose any sleep over *F-14 Tomcat*. The flight complexity and authenticity have been toned down considerably to allow the arcade element to creep in. In shunning the more detailed aspects of a simulation comes a lack of depth, but the immediate appeal and playability are retained.

If you want pure *Top Gun* action with a moderate amount of depth of play then you can't go far wrong with this.

TGM rating 73%

CHICAGO 30s

US Gold ■ Spectrum £8.99 cass, £12.99 disk
Amstrad CPC £9.99 cass, £14.99 disk

It's the Thirties. A lone undercover agent driving a sedan armed with a machine gun enters the windy city to close down Al Capone's business. From the port to the city's outskirts and centre, and eventually the liquor warehouse, the good guy is up against Al's mob whose members pop up from manholes or ride black sedans throwing fire bombs.

Smooth parallax horizontal scrolling always looks good on the Spectrum, although the partially monochrome screen masks bullets and traps. Likewise weak sound effects do the game no favours.

Amstrad colour (below) is abundant and luckily the slightly rougher scrolling, failing of many an Amstrad game, is unnoticeable once play gets going. Like the Spectrum game, limited animation causes gangsters to glide along strangely at times.

Like Toposoft's previous *Mad Mix*, *Chicago 30s* is a surprisingly simplistic game based on dated ideas. We've seen it many times before and this latest offering adds nothing to the ranks.

TGM rating: Amstrad CPC 39%
Spectrum 42%



DUGGER

Linel ■ Amiga £19.95

Like Linel's first game featuring Herbie Stone (*Crack* — a *Break Out* variant), *Dugger* is a reworking of the old arcade game *Dig-Dug*.

Nasty creatures Crunchy and Frugal dwell underground and Herbie, a caveman, must blow them up with his pump. The dangerous beasts can also be eliminated by dropping hefty boulders on their heads.



Linel dig up old ideas for Herbie Stone's second adventure

By far the best part of the game is the introductory sequence, where three cavemen carve out 'CRACK' in a rock face and have to be sent back to correct their mistake. The amusing cartoon graphics are also used in the necessarily smaller game sprites, which are bold and neatly animated. The earthy backgrounds are nicely shaded and the game is backed by a pleasant tune and fitting effects.

Being a reworking of such an old game, *Dugger* has very simple gameplay, and limited long term appeal as a result.

TGM rating 41%

Ice cold and jammin

SKATE OR DIE

Electronic Arts ■ Spectrum £8.95 cass, £14.95 disk

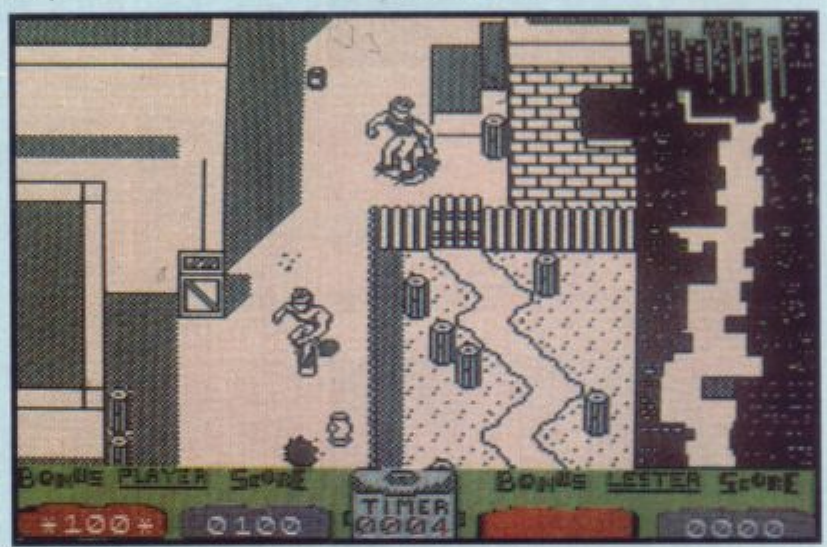
If you enjoyed the half-pipe freestyle event in Epyx's *California Games*, *Skate Or Die* is for you, because it's devoted to that most rad of transports — the skateboard.

Event one is similar to the *Games* one but with more moves available. High Jump also takes place on the half-pipe ramp but altitude is the aim. There's a swift journey through a park in the Downhill, and an equally fast but perhaps dangerous one in the Downhill Jam two-man race. The rivalry gets stronger in Pool Joust, where the two skaters roll around an empty swimming pool and attempt to knock each other over with a 'boffing stick' (oar or paddle).

Released a long time ago on the Commodore 64, it's almost as enjoyable now on the Spectrum. While the High Jump's too simple and Pool Joust too tricky and boring, the remaining three events are great fun, particularly with friends.

Most screens and their elements are black on white, and though things sometimes become a jumble of pixels, the visual elements work reasonably. Sprite movement and scrolling, where used, is adequately done. A fun package of events that's well worth a look.

TGM rating 76%



Though the rotation method of steering is hard to use at first, you won't need to be threatened into playing *Skate Or Die* on the Spectrum because it's as jolly as it was on some time ago on the Commodore 64

WILLOW

Mindscape ■ Amiga, Atari ST £24.99

George Lucas's latest — but certainly not greatest — cinematic creation moves to the computer. Telling the tale of a quest to save a child, Elora Danan, from the evil Queen Bavmorda, the game is split into seven parts, six of which can be practised before risking your eight lives. The Dungeons, Ice Caves and Woods are 3-D mazes, the latter giving you the opportunity to freeze enemies with magic acorns.

Despite its different stages, *Willow* in both 16-bit versions is nothing to rave about. Each stage is difficult (frequently very difficult) and what's worse, boring, so there's little incentive to persevere. The ST sprites are badly coloured, drawn and animated, backgrounds are plain, and the digitised pictures have random red and blue pixels spread over them.

Control response is slow and sound is limited to basic beeps. Things are worse still for 520 owners because the game takes a long, long time to load in parts and if — as is often the case — you die quickly, it's very frustrating having to load everything back again.

The Amiga game is depressingly similar to the ST's. The loading time is no faster and, other than the clearer digitised pictures, graphics are equally poor, and the music's a grating single-channel tune.

Loading troubles or not, *Willow* simply isn't worth the bother.

TGM rating: Amiga 17%

Atari ST 21%



Pretty pictures apart, 25 minutes loading near-impossible stages will soon have you weeping

THUNDERWING

Cascade ■ Atari ST £19.95

To win in the 16-bit arcade stakes these days, you need a game with loads of playability, sufficiently novel features, or at least very clever implementation. Unfortunately, it's not the case here with this all to familiar vertically scrolling shoot-'em-up.

Armed with lasers and ship-encircling force fields, you face wave upon wave of alien tanks and defence craft. The plot and simple gameplay could be forgiven if the graphics and presentation made up for it — but *Thunderwing* fails completely because they don't.

Primitive graphics, a very middle-of-the-road tune and colour clash combine to produce a simply horrendous result.



Certainly no *ACE*, *Thunderwing*'s a bit of a yawn

TGM rating 28%

WANDERER

Elite Systems ■ Amiga £19.99
Amstrad CPC £9.99 cass, £14.99 disk,
Commodore 64 £9.99 cass, £11.99 disk
Spectrum £8.99 cass, £12.99 disk
Atari ST £19.99

Tired of the overlord Vadd's rule, the downtrodden Confederation of Ten Planets rebel. The Confederation hires a mercenary, the Wanderer, to take on and defeat both Vadd and his space army. Like all mercenaries, the Wanderer's got to work for his Megs but isn't this a job like any other?

To confuse us all and make the reviewing process a little more difficult the 8-bit and 16-bit versions differ in their plots. The ultimate objective in both is to reach Vadd and defeat him and his minions.

The common method of play to both is to take cards between each of the ten planets engaging in a giant game of space poker, each planet having its own 'hand'. By improving each planet's hand the Wanderer is rewarded with Megs (8-bits) or Cats (16-bits). Once 8000 worth have been collected



Originally conceived early last year requiring bi-coloured 3-D glasses to play it, *Wanderer* now relies on a more standard 3-D effect, as seen here in the Amstrad version

or a 'four of a kind hand' is made (8-bits only) the doorway to Vadd opens up and the final conflict begins...

As well as the poker playing planets, space pirates are out in force throughout the solar system. By destroying pirates the Wanderer's combat ability goes up, with ability increases comes the option to enter black holes and collect Variable Disrupter Units (8-bits) or Jokers (16-bits).

VDUs and Jokers dramatically increase card 'hands' when used and in turn not only accelerates the Wanderer's profits but takes him ever nearer towards opening the portal to Vadd.

A truly odd game, *Wanderer* relies heavily on the generally average 3-D effect to keep the gameplay going. The surreal game

within is little more than a mixture of very simple space combat scenes and a weird variation on Poker.

Across all formats the game is the same with little use made of respective machines' capabilities. The Commodore version suffers sluggish speed and limited colours in use. The 16-bit renditions look just like smoother, faster-moving 8-bit versions despite a good 3-D effect. Only the CPC and Spectrum versions come off any better making the best job they can of a limited idea.

TGM rating: Amstrad CPC 48%
Spectrum 45%
Atari ST 38%
Comodore 64 33%

Forwards and backwards to the past

TIME SOLDIERS

Sega/SNK ■ £24.95 cartridge

Based on the successful SNK coin-op, we're very firmly in *Ikari Warriors* territory with the action spanning six time zones. The soldiers, Yohan and Ben (who makes up these names?) hop into a time tunnel and spin back and forth through time searching for their mates in the primitive era, ancient Rome, medieval Japan, World War II and Future World. When the D-Scanner locates a trapped warrior the Time Soldiers need to fight the way through to the era's big boss and kill him in order to rescue their comrade.



Soldiers, guardians and other foes particular to each era give the Time Soldiers an excuse for maximum possible use of all weapons to hand. Power-ups, speed-ups and extra weapons can be picked — essential to kill the bigger Boss opponents.

Unshamedly cashing in on the *Ikari Warriors* and *Secret Command* type of game, *Time Soldiers* is a little different with its time travel concept providing variety in both graphics and gameplay. Shockingly unoriginal but still a relatively unexploited idea on the Sega, *Time Soldiers* works especially well as a two-player blast. Two continue-players per Time Soldier are a welcome bonus as well.

The game follows the Sega trend with a twee tune and the now standard Sega flicker throwing in its two-penny-worth. Variety is a common factor throughout each level with plenty to see, some visually impressive time zone bosses and a difficulty level set just about right.

TGM rating 78%

Shockingly unoriginal but spectacularly exciting for two players

FACE OFF

Anco ■ Atari ST £14.95

One team game rarely converted to computer is ice hockey. In Anco's attempt, the game can be customised before the match begins. The length of each quarter, participating teams, the colour of their uniforms, skill level, and type of competition (single match, league or cup) can be changed before the face off.

Control is restricted to running, hitting the puck, hitting other people (!) and barging opponents. The bane of team games is the computer selection of a player who isn't nearest the ball/puck, leaving you with ground to make up. Though this isn't the case with *Face Off*, it's still a problem keeping up with the puck as the fat binary hockey players crawl along at a tedious pace — and terrible scrolling only slows the game further.

Though broad and brightly designed, the sprites are very nicely animated as they skate realistically around the rink. Unfortunately there's some flicker and hockey players sometimes spin aimlessly. Poor vertical scrolling is made worse by a gaudy collage supposed to represent the spectators.

TGM rating 43%



Puck Off! Not an insult — just the original name for this slow-playing ice hockey game



JOURNEY TO THE CENTRE OF THE EARTH

Rainbow Arts ■ Atari ST £19.99
Amiga £19.99

Ever heard of Sneffels? No, well it's in Iceland and it's where your journey to the centre of the Earth starts. If this seems impetuous of you, worry not for your health and progress is marked on a special screen where you may uses medical supplies, redistribute rations and analyse fossils at your current layer to help choose the next move toward the Earth's core. Text and graphic screens are interspersed with arcade sequences, where you avoid falling rocks and stampeding mammoths, collect falling water and hit pterodactyls.



It's okay — but not necessarily worth travelling to the centre of the earth for

The game comes from the *Joan of Arc* programmers, and its influences can be seen throughout, but unfortunately there's very little to it. Strategy is little more than ration juggling and the arcade sequences are generally over-simple left/right dodging games with some awkward control response.

Backgrounds, the neatly defined options screens and well digitised cavern scenes are the same on both versions (though they're perhaps a little clearer on the Amiga), but are overlaid with poorly designed and animated sprites in the arcade stages. Sampled footsteps, screams and mammoth roars provide reasonable backing. This is a disappointingly uncomplicated game after the superbly involving *Joan Of Arc*.

TGM rating: Atari ST 54%
Amiga 55%

DRAGONSCAPE

Software Horizons ■ Atari ST £19.95

Here's another bog-standard shoot-'em-up, only in this case you're riding a dragon on a mission to deliver objects. Dragonscape's implemenation is not first rate. Only about



'Dooon't drop I!' cries a Northern voice if you wrongly deposit an artefact

half of the screen area is used for the overhead scrolling and that, although quite speedy, is also quite jerky. The dragon's definition and animation is neat, and backgrounds are pleasant enough, although most opponents are crudely designed. Simple effects and music aren't particularly assisted by generally indistinct speech. There could be more interesting things to do with 20 quid than play with this program.

TGM rating 59%

GO-MOKU/RENJU

Atari Mindgames ■ Atari ST (unpriced)

Ancient and honoulable Oriental board game appear on ST. But the superior man buy the board instead.

Go-Moku is very simple: on a large grid, each player places either black or white stones, one each turn. The first player to get five of their stones in a row wins.

Renju is much the same, but here lots of restrictions are placed on the black player, to take away his supposed advantage of having first go.

The possibilities are vast enough to make *Go-Moku/Renju* insanely addictive and enjoyable _ in many ways more subtle than chess — and the computer adversary is useful. But you can buy a suitable board in Hamley's of London for £3.75...

TGM rating 64%

X on X off with yet more Xor

PROSPECTOR IN THE MAZES OF XOR

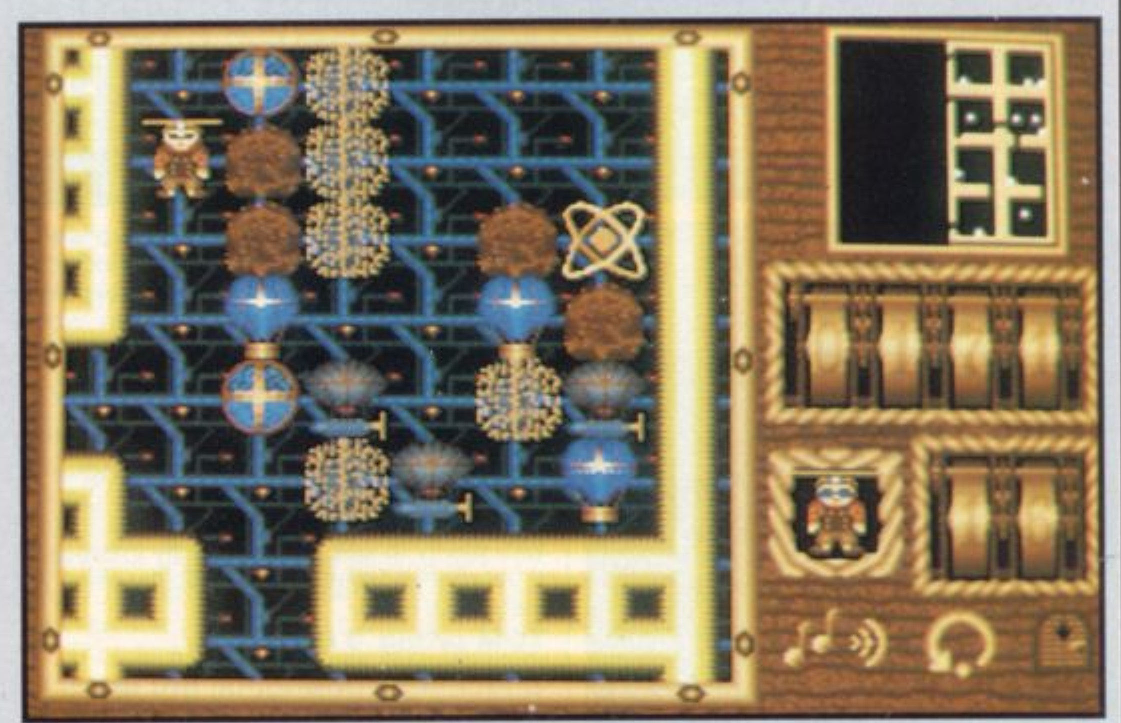
Logotron ■ Amiga £24.95

This is an unoriginal but satisfying follow-up to the puzzle game *Xor*. Excited by the prospect of hidden treasure and equipped with jet-pacs, Herb the hero and Pip the reptile enter the mazes of Xor in search of their fortune.

But the multi-way scrolling mazes are sealed off from one another and the only way out of each is to collect enough balloons. Zeppelins, rocks, rolling spheres amd decoy balloons upset the process of balloon gathering, and on top of this the maze must be collected within two thousand moves.

The Amiga is used well, each maze scrolling smoothly and sporting different attractive graphics with good solid music to prospect to.

TGM rating 75%



The Games machine

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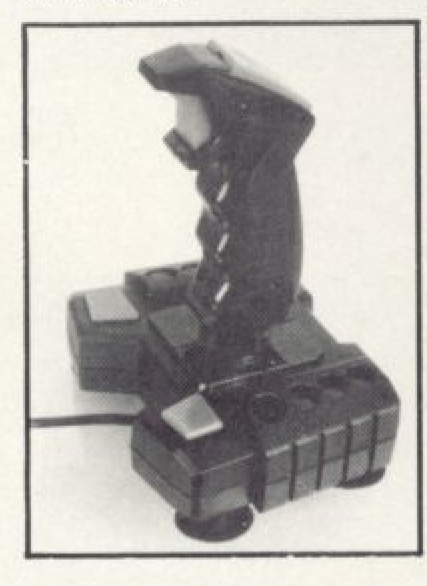
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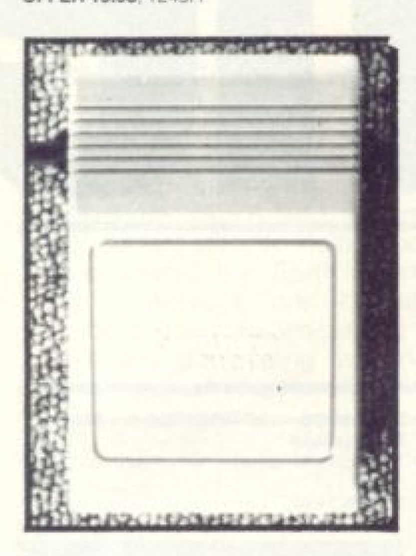


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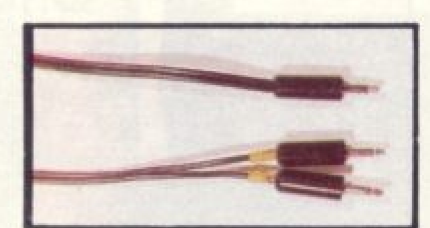


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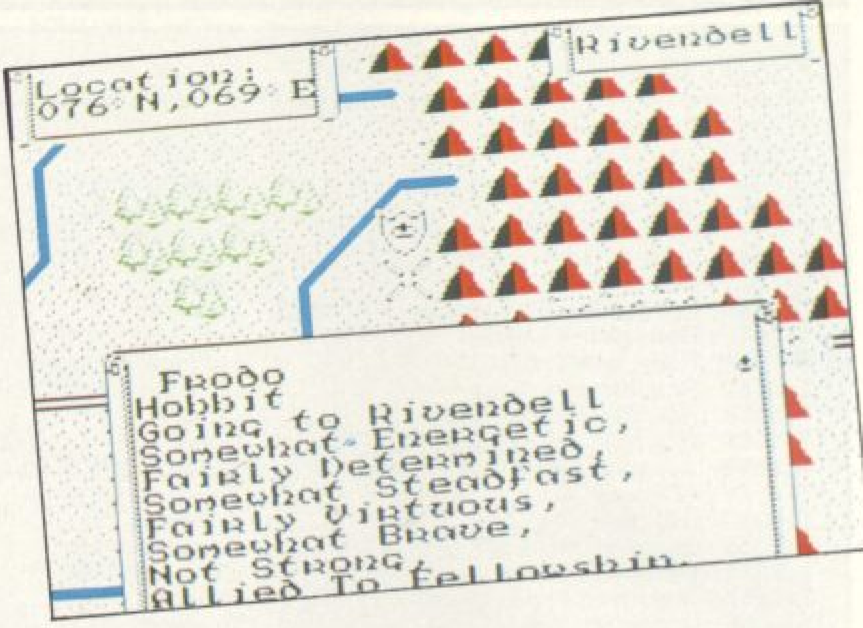
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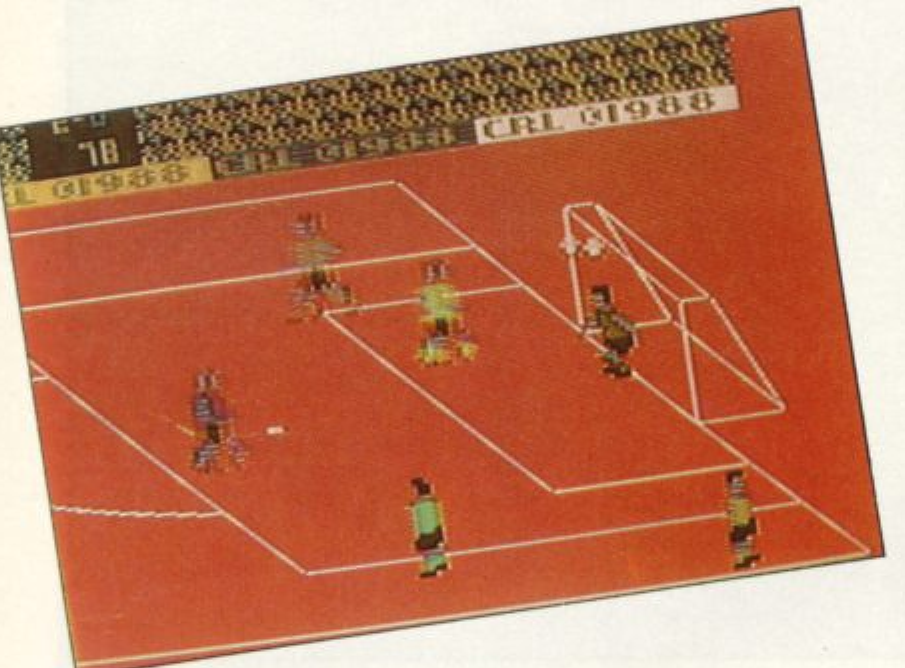
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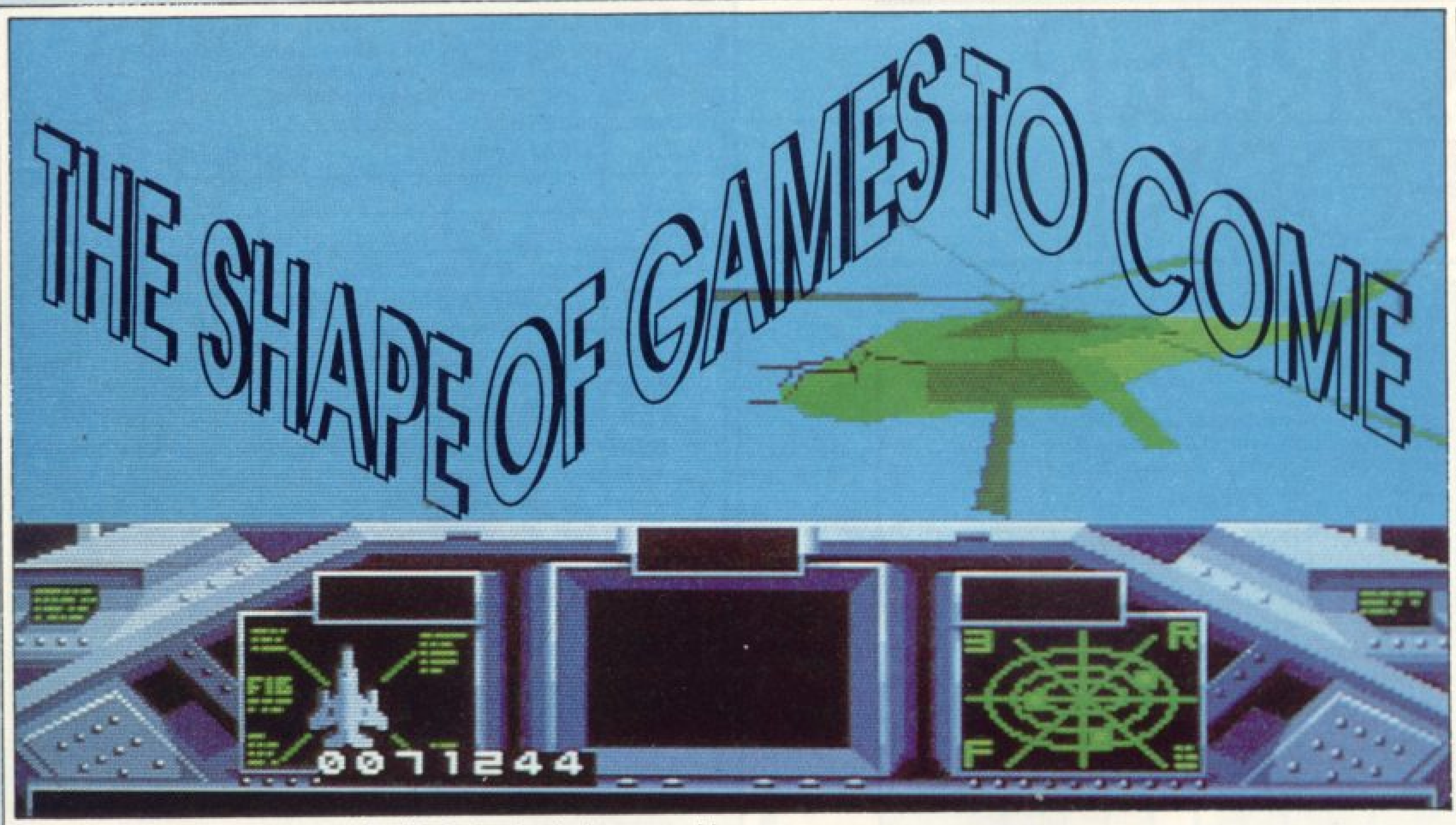
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View from the cockpit: that helicopter is just one of some 150 detailed shapes in **Aggressor**

How do you bring a **game** to **life**? Jez San's Argonaut team are using the latest techniques of 3-D **illusion** for their state-of-the-art flight sim *F-117A Aggressor*.

In this month's instalment of the Argonaut story, 3-D graphics designer and animator **Daniel Emmett** shows how the screens can get up and go.

One of the most important features a game must have is variety. Of course, it's not possible to write an infinitely variable computer game, because the machines have limits, the program has limits and even the programmers have limits (well, nearly). But it's still possible to have an enormous amount of variety in there if the game is well-produced.

In a 3-D game, if you have only a few simple shapes, the player soon gets used to them – and eventually gets bored. So you need as many different shapes as possible. The original *Starglider* had about 27 different objects, but for the first product I worked on at Argonaut – *Starglider 2* – I designed just over 100 objects, about 30% of them animated in various ways. At the time I thought that was a lot. Not so! It was decided that *F-117A Aggressor* was to be even more complex.

The basic shape list for *Aggressor* consists of approximately 150 shapes. But whereas a *Starglider 2* shape would consist of perhaps 20-25 points, a fighter aircraft in *Aggressor* can have anything from about 40 to 70 points. For example, the Lockheed SR-71 Blackbird (a *very* fast reconnaissance plane) has 74 points!

That's considered quite a lot, since the more points a shape has the more processing time it requires in the game – and the harder it is to design. But the bonus is that it looks better, making it worthwhile – if the program is fast enough to cope with it.

Looks aren't everything, but they're very important, especially in a simulation where the objects *must* look like their real-life counterparts. That's the advantage you enjoy when designing a fictional object: the 'real' version of the object *is* what you design, because it's the original and only version.

A *Starglider 2* Walker is the real Walker in all its detail, but an F-16 from *Aggressor* can only be a model of a real F-16. That's why you must use more points to get something that looks real; it's not really your choice.

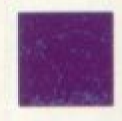
But how do solid 3-D shapes work? Well, the basic idea is to define an object as a set of flat surfaces or faces, which are contained inside a boundary formed by a given list of points. These points are defined by their 3-D coordinates to give them a real position in space.

Any coordinate system could be used, but we use good old x,y and z (Cartesian coordinates), because it's the simplest to manipulate – and for me it's by far the most sensible system. Imagine trying to design an F-14 Tomcat (remember *Top Gun*?) and animate its wings, all in spherical polar coordinates . . . no thank you!

3-D universe

Let's take a simple example: a cube. This would have eight points, numbered 0-7, each having the coordinates of one of the eight corners. And there would be six faces (0-5), each face being defined by a list of the four points that bound it – ie its four corners.

When you perform various mathematical operations on the point coordinates, the object can be placed at an arbitrary position and orientation in space. In simple English, this means you can put it anywhere you like and have it facing in any direction.

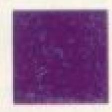


"Looks aren't everything, but they're very important – especially in a simulation"

And once you set up your own little universe, populated by a host of these 3-D objects, you can mathematically calculate what you'd see if you were sitting at a particular position looking, say, *thataway*, and project a two-dimensional view onto the screen. This view is then updated in real time as the objects move about and your viewing position changes.

That's fine for simple objects. But what happens if an object has to be animated? Say I want to design a birdlike shape with wings that flap, so it actually looks like it's flying.

The object has to be defined as a series of frames, each one slightly different from the last, so when the frames are displayed in the required sequence in real time one gets the impression of a smooth flapping motion. It's quite similar to making a cartoon.



"The big problem with 3-D graphics is the processing time – if the game is too slow, it's unplayable"

The big problem with 3-D graphics is the processing time consumed by all the maths; and of course it all has to be done in real time, while the game is being played. The more objects you have to deal with and the more complex they are (with more points and faces), the greater the time taken by all the calculations, and so the slower the game will run.

If the game is too slow, it's unplayable. Animated shapes look particularly bad if they're displayed so slowly that the individual frames are distinguishable, instead of a smooth continuous motion – it completely ruins the effect. No one would go to see *Who Framed Roger Rabbit* if it only ran at two frames per second, so why

should they play computer games that are jerky and slow?

There are three ways of making a 3-D program run faster: have simpler shapes, have fewer shapes visible at any one time (lower population density), or optimise the processing and shape data.

But the first two would result in a less interesting game, so the best solution is to turbocharge everything, making all routines and data as lean and as mean as possible and employing various techniques and sneaky tricks, mostly developed by people here at Argonaut.

That's the theory. But like everyone in the 3-D business, I have my own personal way of designing shapes . . .

Making it work

First I decide what the shape is going to be, what it will look like and what it will do when animated. For most shapes in *Aggressor* this is easy, since they're based on real objects. For a fictional shape I come up with a mental picture, maybe making a few simple sketches.

Then I draw a series of different projections of the object on graph paper, on which I plot the points and faces from which the object is constructed. This is where the bulk of the work lies – the object has to be an accurate representation of the real thing, but I don't want to use an unnecessarily large number of points and faces, for the reasons mentioned earlier.

And all the faces must be flat for the shape to work, which is often a pain – otherwise the maths can't cope. Bugs such as this, or using incorrect ordering of points when defining a face – or, worse, nonexistent points – give you some weird and wonderful effects, though the Shape Editor (see below) can detect and eliminate such errors.

For realism, objects such as planes and ships are designed to scale, based on careful measurements using plans of the real object. Once the blueprints are finished I can read off the coordinates of each point, and the points contained in each face – and breathe a sigh of relief.

I then enter the data into my Shape Editor. This is a rather large program I've written (on an ST) to help design and debug shapes. It's specially designed for the way I work, and the object's points, faces and so on are entered as a series of numbers. (I don't actually produce the first design onscreen. I may be a bit old-fashioned, but I still find it easier to use paper!)

The Shape Editor can then display and edit the object in a number of ways, and perform various operations and analyses on the data. For example, it can tell me whether or not the faces are actually flat and, if not, exactly how unflat they are. It performs virtually every function I could possibly need (that's the advantage of writing your own software tools, isn't it?) and if I think of a new feature, I just update the editor to include it.

If I'm designing an animated shape, I need data for each frame of animation. If the animation is simple, say something moving in a straight line, I just work out the data by hand or on paper. If the motion is more complex – flapping, walking or whatever – what I do is a miniproject in itself. (I had several days of fun on *Starglider 2* simulating walking, eventually coming up with a program that could simulate virtually any two-legged walking/running motion by varying any of 12 or so variables.)

I then use the computer to generate the required animation frames using the formulae. The Shape Editor can display the frames either individually or in an animated sequence (forwards, backwards or whatever), and I can analyse and edit any of the frames.

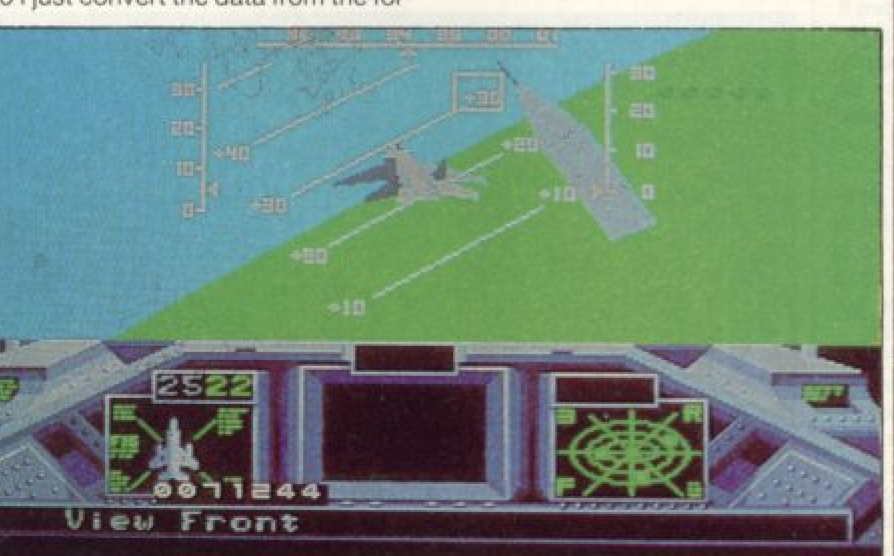
Once I'm happy with a shape, all that's left is to get it into the game. *Aggressor* uses its own carefully-developed format for storing data (for the speed reasons mentioned earlier), so I just convert the data from the format used by my Shape Editor to the *Aggressor* format.

This is usually done in batches of several shapes, using a simple converter that takes 'Danny-format data' in at one end and gives '*Aggressor*-format data' at the other. This data can then be added to the SHAPES file in *Aggressor*, and becomes part of the game.

And that's how all the shapes in *Aggressor* are produced. Some take just a few minutes to do, and some of the really complex ones can take several days. But it's certainly fun, and it's satisfying to see the final version of a shape in *Aggressor* flying about (or walking or swimming . . .) in its own little world.



Graphics man Daniel Emmett (standing at back): 'It's satisfying to see a shape flying about in its own little world.' Seated, left to right, are Argonaut programmers Peter Warnes and Richard Clucas; standing in the foreground, Jez San.



Step out of yourself for a moment: in **Aggressor*****, you can see your own plane from a third-person perspective. That's what the VIEW FRONT on the instrument panel signifies – though the instrument panel can be removed from the screen at the touch of a key.***

And the plain green landscape will be much improved in the final version. While developing **Aggressor*****, Argonaut are keeping it simple so it doesn't waste processing time – that way the frame rate (ie speed) of the aircraft shapes can be impressively maximised.***

Eventually, **Aggressor** ***may even include optional*** **Zarch/Virus*****-style contoured landscapes with features like volcanoes.***

THE NAME OF THE GAME

Just call it Aggressor

Argonaut's fighter sim, codenamed *X* in the first three instalments of the TGM diary, can now be revealed as *F-117A Aggressor* – and graphically it's 'going to be a lot more interesting' than the half-finished screens shown here, programmer Alister Perrott told TGM.

The basic gameplay seems standard flight-sim stuff: 'every time you play, you'll get a mission, choose your armaments, and go out and solve that mission,' says Perrott. But it's 3-D realism that will set *Aggressor* apart from the run-of-the-runway.

Perrott explains: 'The view can be from inside the cockpit, or from outside the plane. At the moment it's possible to see the landscape from the point of view of any object.' And in next month's TGM, Argonaut programmers will describe the experience of playing *Aggressor*.

'It should be out for Christmas, hopefully,' says Perrott. But publishers Electronic Arts have been seeking an earlier release date, hoping that Argonaut's nine-man team can meet their end-of-May deadline for the complex programming task.

Developed on the Amiga, *Aggressor* will appear there first, and then on the ST.

PC and Mac *Aggressors* will follow, but 8-bit conversions seem unlikely.

ROBIN HOGG'S PLAYING TIPS

■ YOUR GUIDE TO BETTER GAMING ■

■ ZAK MCKRACKEN

AND THE ALIEN MINDBENDERS

All formats

This month's Star Tips, from **Mike Bareham** of Basildon, form the first instalment of our complete *Zak McKracken* solution. Watch next month's TGM for more tips on how to beat the Alien Mindbenders . . .

Pick up the fish bowl, open the dresser door and pick up the phone bill. Now go to the desk and open the desk drawer. Take the kazoo and close the desk drawer. Use the fish bowl with the lamp. Take the wallpaper which is on the right wall, and use it on the plastic card which is under the desk. Open the door and go into the next room.

Pick up both seat cushions, and pick up the remote control which is hidden beneath one of the cushions. Use the power cord, which is next to the TV, with the power outlet. You can now use the remote control to switch on the TV. You can watch TV for as long as you like, but it won't help you complete the game.

Switch off the TV by using the remote control. Pick up the butter knife and open the cabinet. Now take the crayons and use the yellow crayon with the torn wallpaper. Walk to the fridge and open it. Pick up the egg and close the fridge door.

Return to the bedroom and pick up the rug corner; use the butter knife on the floorboards. This will bend the butter knife. Now go back into the living room and go out of the front door.

Walk to the bakery and push the doorbell three times. The baker will now throw a stale loaf at you – pick this up. Go to 14th Avenue. Open the door to Lou's loans shop and go in. Walk to the Sell window and sell the bent butter knife.

Now buy the wet suit, toolkit, golf club, hat, nose glasses and guitar. Leave the shop. Walk to the hair salon and open the toolkit. Use the wire-cutters on the bobby-pin sign.

Walk back to 13th Avenue. Put on the noseglasses and the hat, and open the phone company door. Go in and give the phone bill to the representative. Go out the door.

Now return to your house and use the stale bread in the sink. Turn on the switch and turn it off again. Use the monkey wrench on the pipe beneath the sink. Pick up the breadcrumbs and go out of the front door. Walk to the bus and use the kazoo. When the bus door opens, use the cashcard in the cashcard reader.

Give the cashcard to the devotee and get on the plane. Once on the plane, walk to the toilet and open the door. Go in and pick up the toilet paper. Use it on the sink. Now push the call button and walk out.

Walk to the microwave oven, open it and put the egg inside. Close the microwave and turn it on. Walk to the first seat and pick up the cushion. A lighter will drop to the floor; pick this up. Now search through all the compartments above the seat till you find the oxygen tank. Pick this up and wait for the plane to land.

Walk to the automatic doors. Pick up the tree branch and give the peanuts to the two-headed squirrel in the hole. Use the tree branch on the loose dirt. Walk to the cave entrance.

Now click on the WHAT IS command, and move the cursor around the screen till you find the abandoned birds' nest. Walk up to it and use the golf club on the birds' nest so you can pick it up. Use the WHAT IS command again to find the fire pit. Use the nest with the fire pit, then use the tree branch with the fire pit and finally use the lighter on the fire pit.

Now walk to the strange markings and use the yellow crayon on them. A door will open; go through this. Use the remote control and pick up the blue crystal. Now go straight back to the airport. Use the reservations terminal and buy a ticket to San Francisco.

Go to the plane. Walk through the automatic doors and go to 14th Avenue. Go to the door with the drop slot in it, and use the blue crystal in the drop slot. Wait. When the door opens listen to what Annie has to say.

You can now use the command SWITCH, which allows you to control three other characters – Annie, Melissa and Leslie – as well as Zak.

Go out the door and walk back to 13th Avenue. Walk to the bus. Now switch to Annie. Pick up the blotter, and then pick up the plastic card which is hidden beneath the blotter. Walk out the door and go to the bus. Switch to Zak and use the kazoo.

When the door opens, use the cashcard in the card reader. Switch to Annie and use the cashcard in the card reader again. Now use the reservations terminal and buy a ticket to London. Go to the plane. Walk through the automatic doors.

Switch to Zak and use the reservations terminal to buy a ticket to Miami. Walk to





the plane. Give the book to the bum, and he'll give you a bottle of whisky as well as returning the book. Use the reservations terminal and buy a ticket to Cairo. Walk to the plane. Use the reservations terminal to buy a ticket to Katmandu. Walk to the plane.

Walk outside. Now walk to the guard and give the book to him. The guard will open the door for you; go through it. Walk to the guru and listen to what he has to say. Go back outside. Walk to the bale of hay and use the lighter on the bale. Now go left to the jail and pick up the flag pole. Walk back to the yak, and use the cashcard on the licence plate.

Use the reservations terminal and buy a ticket to Kinshasa. Walk to the plane. Walk outside. Now walk through the jungle till you come out of it. Walk to the shaman's hut and go inside. Give the shaman the golf club. The shaman will now lead you outside – then he and two other natives will dance around a fire.

When they stop, they'll bob up and down. You must make a note of the order in which they do this – you'll need it later in the game.

Now go back through the jungle to the airport. Use the reservations terminal and buy a ticket to Cairo. Walk to the plane.

Use the reservations terminal and buy a ticket to London. Walk to the plane.

Use the reservations terminal and buy a ticket to San Francisco. Walk to the plane.

Use the reservations terminal and buy a ticket to Lima. Walk to the plane, then walk outside.

Walk through the jungle till you've worked your way through it. Now use the breadcrumbs on the bird feeder. Then use the blue crystal on the bird. You can now control the movements of the bird.

Fly right till you find a huge carving. Fly to its left eye and pick up the scroll. Now make your way back to Zak and give the scroll to him. Switch to Zak and make your way back to the airport . . . and that's where you'll have to remain till next month.

■ SWORD OF SODAN
Amiga

The surprise success of Discovery's *Sword Of Sodan* has created hundreds of frustrated players – but fret no longer, because here's **Daniel Vernon** of Doncaster with some handy hints.

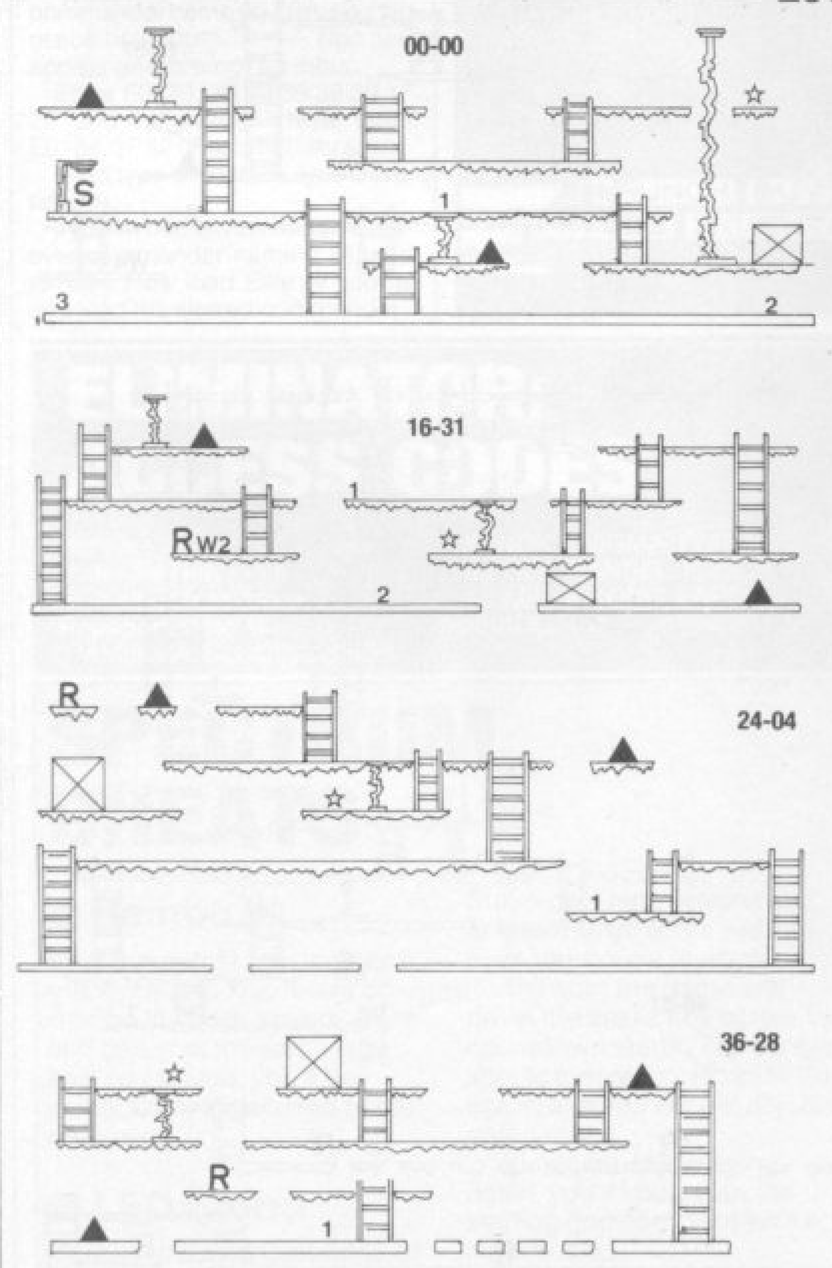
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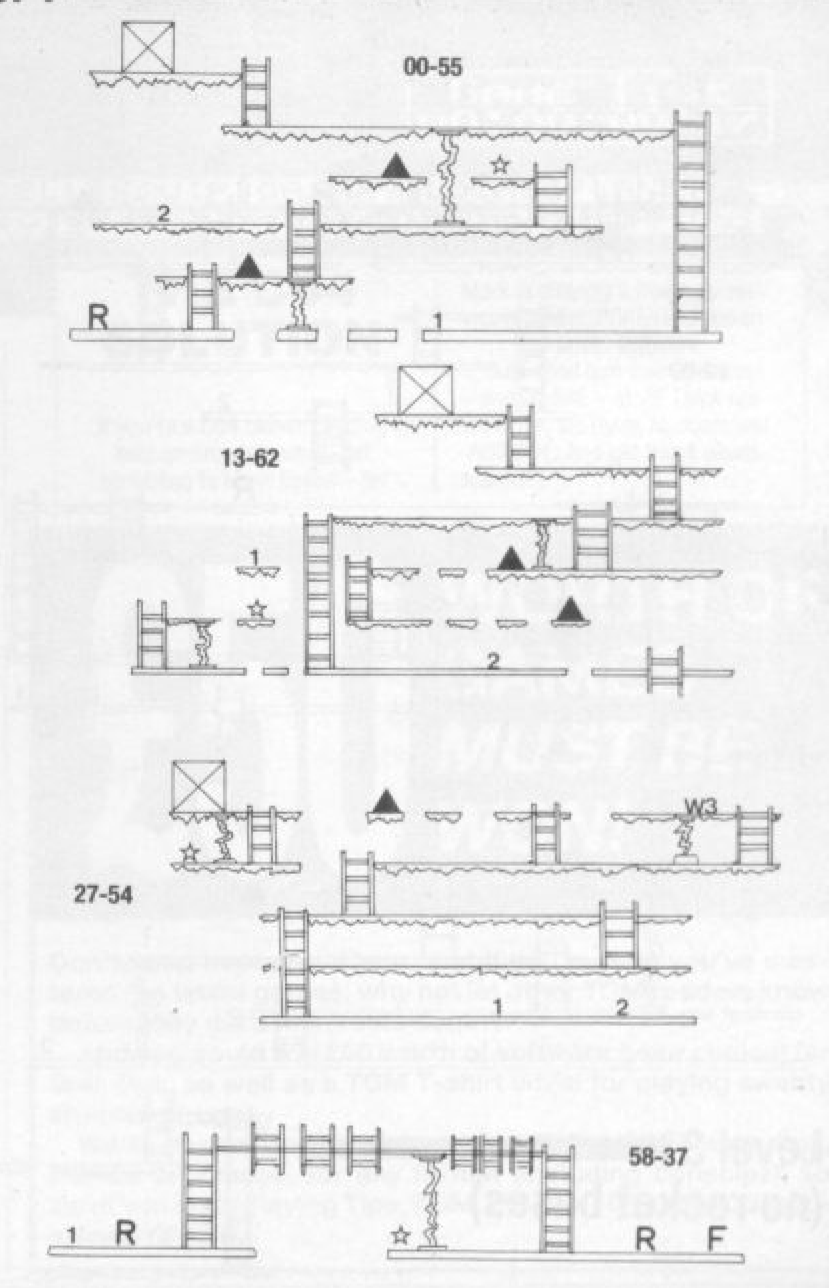
■ *BAAL: maps of the three domains*

Kevin Griffiths of Wolverhampton produced these detailed maps for Psyclapse's Baal, **showing the coordinates of all the rocket pads.**

Rocket pad	☒	Start	S	Weapon cartridge 2	W2
Rocket fuel	▲	Finish	F	Weapon cartridge 3	W3
Parts of the war machine	☆	Force-field generator	1	Refuelling point	R

Level 1





In general
Save potions for later levels (5 upwards), and try and to keep as many as possible for the last level – where you'll really need them. There's no time limit so don't rush to complete a level, unless you have the power shield activated and want to use it on the next level.

Level 1
As soon as the level begins jump forwards until you hear the guard telling you to halt, then begin attacking. Jump as close to the guard as you can to avoid being stabbed.

Level 2
When you're between the single and double spikes attack the guard. Instead of following him, back off a little and then jump forwards and hit him when he approaches.

Level 3
If the first two men are too far away to be hit with a kneeling strike, just change to an overhead blow. The men will then come a little closer, allowing you to hit them with the kneeling strike.

Attack the giant with the overhead blow. But never jump into him, because his club will drain your energy.

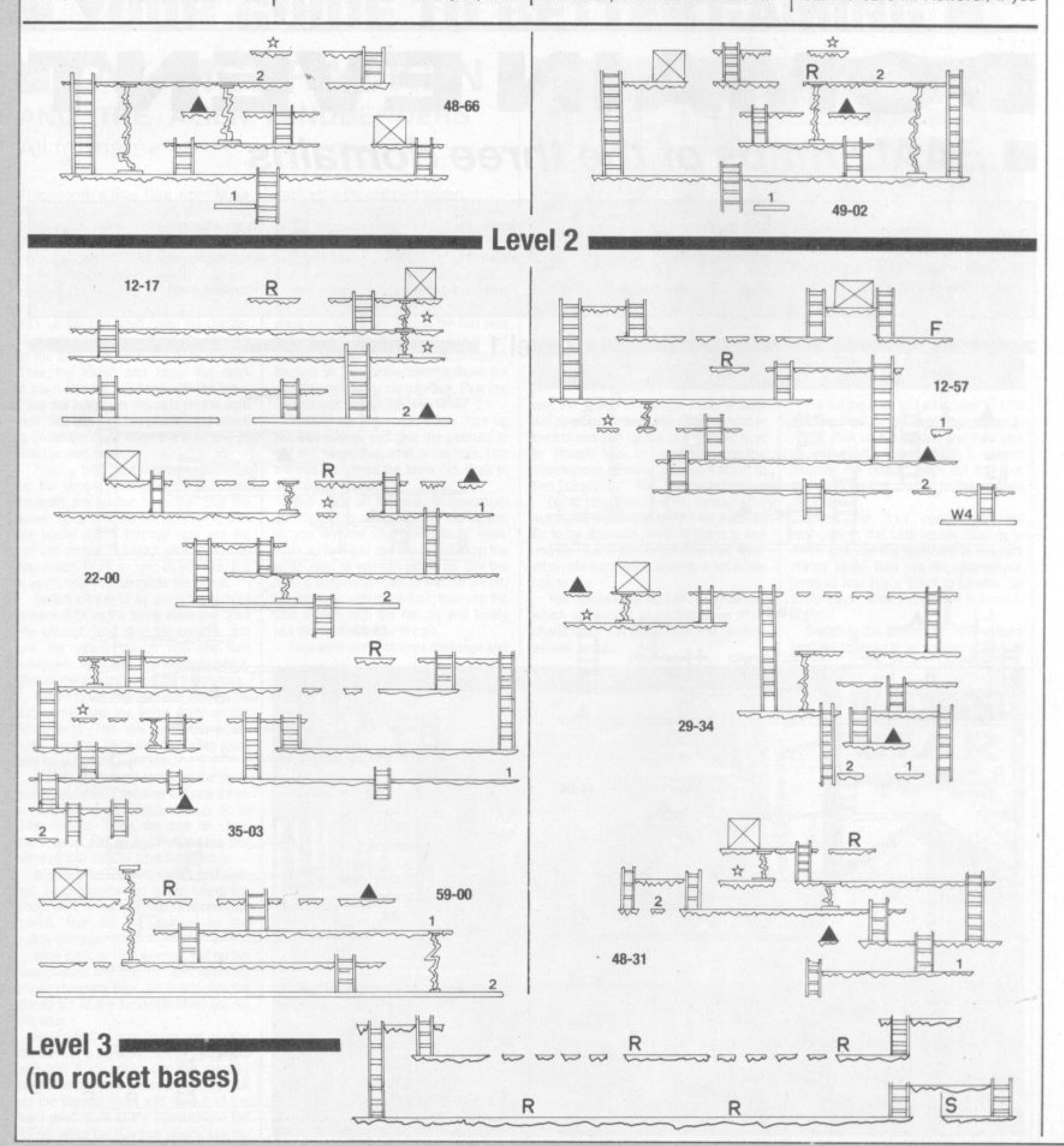
Level 4
To kill the fat guys, just kneel and stab. The dull sprites will continue to jump into your sword till they die!

Level 5
When attacking the zombies, always kneel down – this will prevent you from being injured by their arms and the substance they spit at you.

Level 6
Use the power shield – this will stop you from falling into the traps. Jump towards the man and continue to hit him. If he runs away, follow him.

Level 7
Walk forwards till you're in line with the body on the wall. You can kill the flying creatures with an overhead blow. Use a magic zapper to kill the man at the end of the level.

Level 8
Be prepared to jump the fire that rushes along the floor. And the level gets more difficult when walls start to cave in. However, if you



keep looking at the top of the screen you'll get an early warning when a wall is about to collapse.

The fire will stop when the steel spikes appear. These are more deadly than the fire, and you'll lose a whole life if you get impaled. So concentrate more on avoiding the spikes than the walls.

When you reach the blocks section, walk to the edge of the lava pool and wait till the first block is almost at the edge. Then jump forwards onto it.

When you've jumped onto the third block, time your next jump very carefully because parts of the floor will crumble away if you jump too early. When you finally reach the stone skull, kick it in the teeth to make it slide backwards and reveal the exit.

Level 9

Kill the two pairs of creatures with the overhead blow. Jump past the caterpillar-like creature when its head is as far down as possible. Now walk past the potion and a bird will follow you.

Walk back to the creature and the bird will eat it. Once the bird has finished eating, walk forwards till the water starts to rise. When the water is below the bird's mouth, you should begin to jump.

Continue jumping till the water is above the bird's mouth. The wall will now disappear, allowing you to continue forwards again.

You can increase your hit strength by hitting the grey creatures on top of the wall. When they fly over you, use the overhead blow to kill them.

Hit the bits of fire with your sword to prevent them from injuring yourself. And when the wall disappears, walk forwards to finish the level.

Level 10

As soon as you appear on this level use the magic zapper. Then activate a power shield and jump towards the man. Hit him once to kill him, then jump to the right to complete the level.

Complete this level as quickly as possible – because you'll need the power shield on the next level.

Level 11

Jump towards the big creature and continue hitting it till it disappears – the power shield should last long enough for you to do this.

When the wizard appears, don't panic – you can actually *jump over* his energy bolts.

To kill Zoras, you'll need two magic zappers and a power shield. When he fires lots of blue energy bolts at you, activate both the magic zappers and the power shield.

Walk towards him and start to hit him. If you've used both magic zappers, you'll only have to hit him two or three times to kill him. Now walk to the right to see the end sequence.

■ ELITE

PC

Thanks to **David Cheung** of Crewe, any PC *Elite* player can get 99999.9 credits instantly. You'll need the DEBUG and ATTRIB commands (ATTRIB is only in DOS versions 3.0 and higher).

Type PROMPT £P£G and press the RETURN key; the current directory name will now be displayed to the left of the cursor.

Now type PATH\A:\ (make sure your disk is in drive A), and hit RETURN.

Type DEBUG followed by the commander name you're using (eg DEBUG DAVID.CDR). A '–' sign will appear as a prompt for input.

Enter E0120, 39 39 39 39 39 1F 29 and hit RETURN. Now enter E0188, 3F 42 0F and RETURN again.

Then type W, RETURN, type Q and RETURN.

Type ATTRIB DAVID.CDR (or whatever commander name it is), and RETURN. Now load *Elite* as normal and load the altered commander.

THE C64 SOLUTION

If you're a C64 owner needing help on arcade games, get scribbling to Mark Essen – for Mark is offering a free help service providing POKEs and tips on the latest software.

Just send him your problems – and an SAE – at *26 Thick Hollins Drive, Meltham, Huddersfield HD7 3DL.* And get those aliens *scared*!!!

ELIMINATOR: ACCESS CODES

Here are all 13 level-access codes for Hewson's *Eliminator*, from **Shay Rapaport** in Israel:

AMEOBA, BLOOP, CHEEKI, DOINOK, ENIGMA, FLIPME, GEEGEE, HANDEL, ICICLE, JAMMIN, KIKONG, LAPDOG, MIKADO.

SPECTRUM CHEATS

■ Rambo III

Paul Busow of Liverpool has a quick cheat to skip levels on *Rambo III*. Press SYMBOL SHIFT and QWERT at the same time and, hey presto, you'll be immediately transferred to the next level.

■ LED Storm

Thanks to **David Cathlidge** of Stoke-on-Trent, anyone can amass a large score without even touching a joystick.

Just start the game and press the BREAK key before the countdown starts. The border should turn green. Press BREAK again, and you should quit the game.

When you start playing again, you'll appear on the starting grid complete with a large score.

£50 WORTH OF GAMES *MUST BE WON!*

Don't keep secrets – share 'em! If you reckon you've mastered the latest games, why not let other TGM readers know before they die a miserable death?

And you could win £50 worth of software (*your* choice) for Star Tips, as well as a TGM T-shirt (ideal for playing sweaty shoot-'em-ups).

We're always on the look-out for EXCLUSIVE hints, tips, POKEs and maps, for any format (including consoles), so send 'em in to: Playing Tips, TGM, *PO Box 10, Ludlow, Shropshire SY8 1DB.*

This glorious empire

SPACE 1889

Roleplaying rules, 216pp hardback
Games Designers Workshop £17.95

It's 1889. Queen Victoria has been on the throne for 52 years, and Great Britain is at its mightiest. Thanks to the miracles of Victorian science, British warships rule not just the waves but the skies as well. Dare you brave the hazards of interplanetary travel in the wooden, steam-powered ships of the ether, risk encounters with hostile Martians in the search for groves of marvellous 'liftwood', dodge dinosaurs in the swamps of Venus and explore exciting new frontiers of the solar system? If so – read on!

Space 1889 is the long-awaited new release from Games Designers' Workshop, US creators of the popular *MegaTraveller*, *2300AD* and *Twilight 2000*. Unique in concept, the game allows players to adventure in a setting that could have come straight from the imagination of Jules Verne or HG Wells – an alternate Victorian era where scientific advances, notably the wonderful Ether Flying invented by Thomas Edison, have opened up whole new worlds of exploration and conquest.

With steam-driven space battleships powered by ingenious solar boilers, the various colonial powers of Earth have spread their conquests as far as Mars and Venus. However, the new human settlers on the two worlds don't have things all there own way – the warlike Martian Sky Lords and the hostile Venusian flora, fauna and climate are all constant menaces. And there are more familiar threats too, as the nations of Earth carry their traditional rivalries into space and compete for a share of the rich of the solar system.

The highly original alternative reality is a truly magnificent setting for an roleplaying adventure. Players take on the roles of explorers, detectives, inventors, interplanetary diplomats or members of Her Majesty's armed forces in quest of fame and fortune. The rule system used is a new and very simple one, laying emphasis firmly on fast and furious action rather than a high level of detail. The basic details of a players character are specified in terms of six attributes – strength, agility, endurance, intellect, charisma and social level – each rated on a scale of 1 to 6. In addition, a character will possess ratings in several more specialised skills. Starting skill ratings for a character are aquired in two ways. All characters possess certain skills automatically, with an initial score derived from the corresponding Attribute value. So a character with a high strength score will be good at Fisticuffs (which cover all unarmed combat – not just boxing), wheras a high intellect score gives a character good observation. In addition, each player choses a career for their character, which brings with it further skill levels. There are a range of typical Victorian occupations to select from – such as Detective, Cavalry Officer, Inventor and even Anarchist. Finally, a few more skill levels can be purchased using a simple points system. All that remains is to choose a name for the new adventurer and you're ready for play. The whole character generation process need only take five minutes, and there are handy pull out reference tables to speed things up further.

The remainder of the rules system is equally simple and straightforward. Use of skills is determined on a 'difficulty number' basis, where a player roles a number of dice equal to the relevant skill system must beat a target score set by the referee to succeed – wheras for an untrained human to ride a Skrill – the viscious flying mounts of the Martians, is an impossible riding skill – difficulty number 20. The combat resolution system is quick and easy too, being based more around fast moving action than detailed calculation and tactics. Rules are provided for heavy weapons (artillery and the like) and aerial battles as well as man-to-man combat.

The game clearly isn't intended for hack 'n' slash play, since personal combat tends to be very one sided – the protagonist with the best weapon skill will usually win out very quickly, and wounds are quite serious with a single good hit knocking down most opponents.

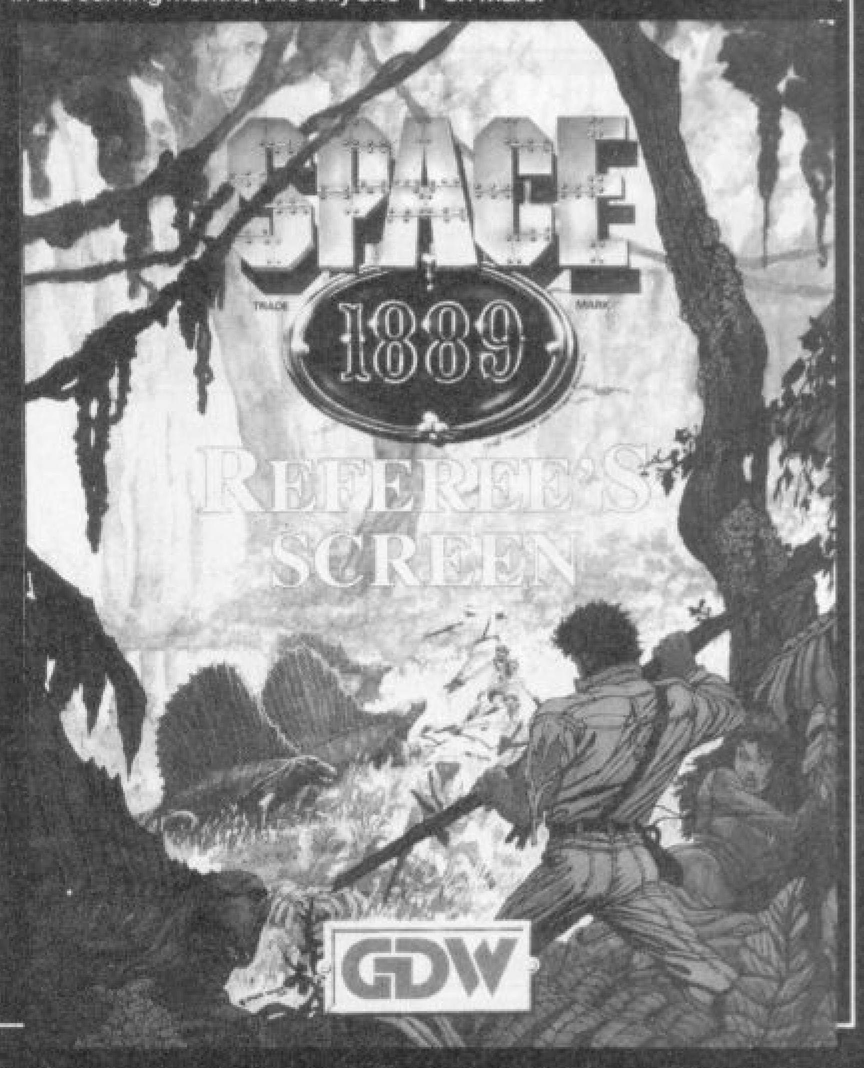
The simplicity of the basic mechanics leaves the vast majority of the rulebook free for background material. There is a chapter on the Victorian age, providing a brief summary of the society, politics and people of the era. Twenty pages are devoted to the range of equipment players may come across, from simple tools such as knives, gadgets like cameras, lab equipment and the new-fangled 'telephonic instrument', transport equipment from bicycles to Martian war kites and weapons of all sorts. The 'travel and navigation' chapter includes a whole range of hazards for players to face, from bush fever to Martian windstorms. The Moon, Mars and Venus each have a chapter devoted to them, with the Martian chapter being the most extensive, featuring the four different Martian races such as the Canal Martians with their advanced but stagnating civilisation, and the barbaric High Martians (so named for their flying ability, not their culture!), and providing several suggestions for adventures.

A particularly entertaining chapter deals with science and invention. Player characters who are inventors by trade may conduct research to try and develop new gadgets of varying degrees of usefulness, which often provide natural opportunities for adventure . And of course the referee may confront players with Mad scientist inventors too. Many possible inventions are detailed , such as Freeze Rays, helicopters, gravity control and of course Synthetic Life.

Many add-ons and adventure supplements for the Space 1889 system are scheduled for release in the coming months, the only one available as yet being a 'Referee's Screen' pack. This contains all the important reférce tables from the rulebook, a 16 page booklet containing a few additions to the basic rules and more reference information on combat, travel and encounters; and two 'Stikkits'- high-tech paperclips to attatch notes on to the screen during play. Hardly any of the material is new - the pack simply serves as an additional reference section for the basic rulebook. This is certainly a useful play aid, but it offers very poor value at £6.95.

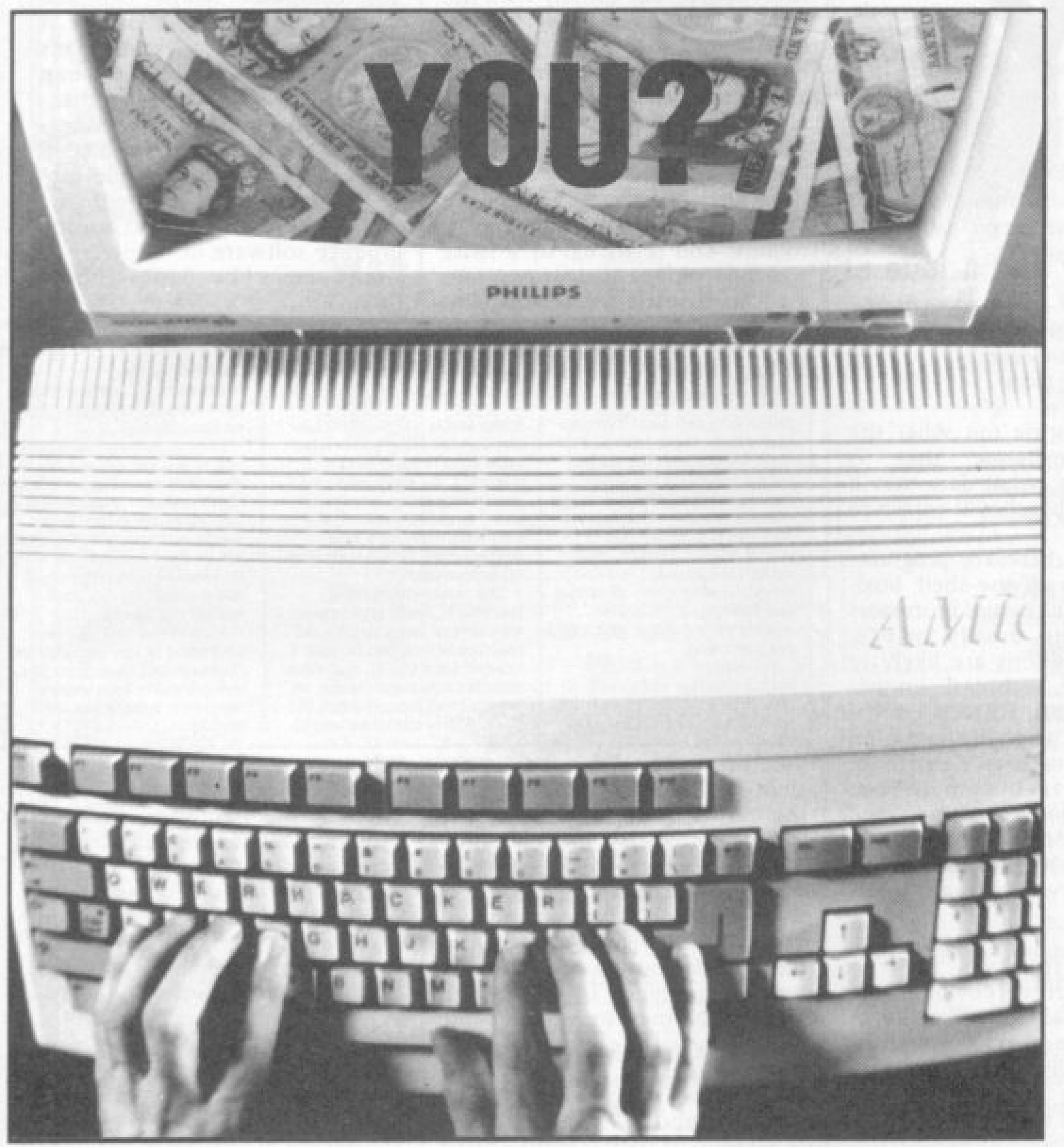
Also available is Sky Galleons of Mars, the boardgame of ship-to-ship combat above the red planet, which allows two players to fight out battles between fleets of the Martian warlords and the aerial gunboats of the Royal Navy.

Overall, *Space 1889* has a lot to recommend it. The rules are simple and suited to fast action and lighthearted roleplaying at about the same level as West End's Star Wars. The presentation of the rulebook is, sadly, pretty poor being printed on low grade paper with just a handful of glossy colour pages and no index. Very large type is used throughout, so the total amount of material included is less than the 216 pages would suggest. However, this is one very entertaining package and after a play you'll soon be wanting to return to the Crown Colony of Sytis on Mars!



BACK BYTES

COMPUTING—
What's in it for YOU?



A career with computers promises bright lights and big money — if you've got the brains, they'll make it worth your while. And games programming is only the tip of a massive iceberg of opportunity, as TGM reveals in this month's complete guide to jobs, training and your future in your hands.
● Page 80

Too many broken hearts

That's what this month's top letter-writer has — he's angry about hyped-up software houses wasting the incredible potential of the 16-bits. Will it happen to the Konix Multi-System too? See what he thinks, and then read our opinion.
● Page 96



TGM018



CANCELLED DUE TO LACK OF SUPPORT!

What turned the compatible dream into a nightmare? This month's Controversy column unearths the REAL reasons behind MSX's failure.... and reveals how it's slowly coming back to Britain.
● Page 102

WHAT'S INSIDE

INDUSTRY: WE WANT YOUR PRODUCT NEWS! CALL BACK BYTES
EDITORIAL Robin Candy ■ ADVERTISING Lee Watkins ■ 0584 5851

CAREERS

DOING IT FOR MONEY

Gizza job, guv! There's loadsamoney and a lode of opportunity waiting to be tapped by programmers, engineers and journalists.

If you ever sat up all night struggling with the mysteries of Sinclair BASIC, marvelled at the finished slickness of an Amiga-drawn painting, or tried to recreate Pet Shop Boys with an ST, chances are you've toyed with the thought of doing this forever . . . for real.

But the going is tough in the games world – no more than a few thousand make their living from it, thousands more want in, and there's so much competition it's difficult to make a decent living in what many consider the most desirable area: programming.

Yet thousands of opportunities exist in other areas of computing, from programming to repair to journalism. And, just as most computers are found in businesses, many programming jobs are there too – working for companies big enough to afford their own mainframe installations with teams of computer staff. Government and big public bodies, like the police, are major employers too.

Of course, this may tie you to working on a particular kind of program all the time – banks and insurance companies, for instance, will mostly want software to cope with the fine details and massive volume of their financial deals. But the advantage of that is that you can quickly gain expertise in a particular area, and move ahead quickly.

For what most of these employers want is business knowledge as much as computer knowledge. Large installations (that's the jargon) tend to use very high-level languages – things like dBase – which aren't particularly difficult to understand, so the actual act of programming is simple.

It's quite different from games programming, where mastering assembler or machine code is a herculean task in itself. The real challenge of business computing comes in figuring out what the non-computer-literate user is going to want: what data they'll put in, and what they'll expect to get out.

Of course, there are programmers writing off-the-shelf business packages like word processors or spreadsheets, usually for PCs, and these positions are likely to require more technical knowledge. For a start, RAM is limited on PCs (even when it's measured in Mb), and it takes all the tricks of the trade to cram in as much code as possible for a high-powered program; by contrast, as far as program code is concerned, mainframe memory is virtually unlimited.

So much for theory

How d'you start? An obvious route might be to take a university or poly course in computer studies, but this really isn't necessary unless you're planning to be a high-powered academic computing type.

If you *do* want to go to uni/poly, probably the ideal course is a joint degree in computer studies and business studies. 50-odd different universities and about 30 polys provide computer training, so there's all the choice you could want; and some courses are specialised. For instance, the universities of Bath, Birmingham, London (Imperial College) and York all offer software engineering (jargon for programming) degrees.

A-level computer studies won't do any harm, but maths is probably the only essential.

Otherwise, jump straight into the industry. This can be done either through a short course, or by joining a large company's training scheme. Courses are sometimes run by local education authorities (LEAs) and sometimes by expensive private colleges; if you can find one in your area, an LEA course is probably just as good and a helluva lot cheaper.

Over a few months, you'd learn the principles of computer systems, perhaps a little about hardware, and one or two languages: most likely COBOL (Common Business-Oriented Language), now little-used but still oft-taught, and one other. The difficult but powerful C language is the flavour of the month right now, so if you find a course that teaches C, grab it.

Corporate training schemes will give much the same education as a short course, but usually with the promise of a job at the end if you do well enough. This gets your foot on the bottom rung of the ladder, but of course there's more competition . . .

Rich rewards

Because computing is a relatively new industry, it hasn't become codified and restricted by a strict pecking order the way, say, medicine and the law have. Ability is what counts, and if you've got it you can soon hold down a responsible position. Recent advertisements in *Computing*, one of the main locations for job ads, show what the leaders of the pack can expect:

- Up to £21,000 as an analyst programmer (slightly above a simple churner-out of code) with a year's experience of COBOL on DEC VAX machines and some knowledge of the financial business.
- Glasgow's city government are offering up to £17,658 for analyst programmers with – again – just a year's experience of COBOL or RPG (a much-used language).
- British Aerospace are offering up to £17,000 for systems analysts with at least two years' experience of IBM mainframes.

Of course, these are the plum posts, and only the best will get them. But even for beginners, the general shortage of computing staff means pay is good. The National Curriculum Council in York were recently offering £7,641 for a 20-year-old to help run the administrative side of their installation – effectively a beginner's, or near-beginner's, post.

Computing is a flexible career, too. Experienced programmers and analysts can get posts on the Continent quite easily, because Britain's computing community is more sophisticated than most of Europe's (except France's): West Germany, Belgium and the Netherlands are favourite destinations.

Jobs are available all over Britain – wherever there's business, in fact – so you don't have to be subjected to London. Working conditions are generally easygoing; colleagues are young. And an increasing number of companies are now allowing programmers to work at home some of the time, communicating with head office by modem.

So you don't want to be a programmer

The computer world, like any major industry, has thousands of hangers-on – well, perhaps that's an unkind phrase. But just as an army has regiments of map-makers, radio operators, cooks and bottle-washers behind every force in the field, so there are ample supporting roles in computing. And though these people don't directly produce software or hardware, it would never be done without them.

Such positions include systems administrators, who keep a large installation running by making sure all the hardware, software and users are in order. (It's the systems administrator who steps in heroically when one of those massive network-infecting viruses is discovered.)

Technical authors write the manuals for software and hardware; depending on the product, you might be asked to make a complicated program understandable by idiots, or thoroughly cover all aspects of a hardware system for the benefit of repairmen.

Computer repair is a big business in itself, but like hardware design it's really an area of electronics, and you'd train for it the same way.

■ **Further information: there's no one body dealing with computer training and work, so the best bets are those old standbys – a careers teacher or public library.**

Jobs are advertised in the industry's press (notably Computing, Computer Weekly, Datalink and Computer Talk, which should be available in large libraries but aren't at newsagents), and in The Guardian on Thursdays and Saturdays. Alternatively, try writing straight to a potential employer – any large company or institution – and you may be lucky.

Telling IT like it is

Those who can do; those who can't teach; those who can't teach write about the subject.

Everyone uses the aphorism putting down teachers and journos when it's helpful, yet both careers can be ideal if you're interested in IT (information technology) but don't fancy the nitty-gritty of coding and debugging. Of course, neither pays quite as much as programming.

For several years there's been a shortage of teachers in all science subjects, though this situation may be corrected as fewer and fewer students take arts degrees. Nearly all teachers these days need to have a degree in the appropriate subject (which takes three years) and a qualification in education (one year), or a BEd degree which blends both (and takes four years).

The career structure of teaching is pretty regimented, with several years 'in the field' required before you become a head of department, and more experience essential to rise to deputy head, head teacher, etc. But it differs school by school.

Hacking hacks

Journalists, by contrast, rarely have formal training (except on local papers).

As with programming, once you're in it's ability and experience that count. There are dozens of computer publications in Britain, ranging from major weeklies to specialised monthlies, and not many people who understand both computing and journalism, so a good worker can rise fast.

Most of the best jobs are advertised in The Guardian on Mondays and Saturdays. The starting salary for a trainee reporter is usually around £6,000.

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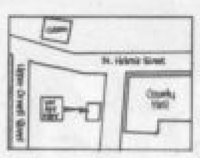
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TOOLBOX Products and news to make life bearable

PC * C64 * APPLE II

Produce your own Epyx

Epyx don't just program games – they've got their own Designer Series of software, which includes *Print Magic* and *The Home Video Producer*.

Print Magic is similar to Electronic Arts's *Deluxe Print* – it's a card/memo/invitation designer which includes a number of printer drivers.

The package also has a library of graphics and typefaces to suit most occasions from parties to schoolwork. And if you can't find a suitable image, just use the built-in art utility to design your own.

Print Magic is available for the PC and Apple II (both £24.99).



Print Master: for the good-looking letterhead

Video titling

The Home Video Producer is aimed at amateur video makers who want to add title pages and simple animations to their productions.

The program includes all the essential commands for constructing your own 'film' sequences, using a library of graphics included in the package. And it's very easy to use.

But there are some serious drawbacks: the graphics are not of a particularly good, and there's no provision for designing your own.

All in all, *The Home Video Producer* is best suited for designing title screens with scrolling messages – nice for adding that extra touch to home videos, but of little use to the professional.

It's available for the C64 and PC (both £19.95).

Epyx: *Units 2/3, Holford Way, Holford, Birmingham B6 7AX* ☎ (021) 356-3388.

AMIGA

Hard drivin'

Thanks for the memory! Commodore are finally releasing an add-on hard disk for the Amiga, giving you 20Mb of storage – the equivalent of over 22 floppies – built into the computer. It's suitable for memory-intensive applications like animated graphics and music.

Called the Commodore A590, it plugs into the back of any Amiga and works like a second floppy drive – no changes to the operating system are necessary.

Commodore sources have also indicated to TGM that an Amiga with built-in hard disk is likely. This seems plausible in the light of Commodore's efforts to sell the high-end Amiga A2000 to businesses, most of which will be used to hard-disk PCs.

Apart from being more convenient, the advantage of a hard disk is that it's quicker to access than floppies.

Prices have yet to be finalised, but expect to pay in the region of £500-£600.

Commodore Business Machines: *The Switchback, Gardner Road, Maidenhead, Berkshire SL6 7XA* ☎ (0628) 770088.

AMIGA * PC * YAMAHA C1

Avoid those deadly synths

Editing sounds on a synthesizer is a notoriously laborious process. And when you consider that any sound may have more than 50 parameters that can be altered, working on a small LCD screen can be a pain.



Now you see it, now you don't: replace the tiny synth screen with a Sound Quest editor

The obvious answer is to hook your synth up to a computer, and use a sound editor program to create and store new sounds. Libraries of sounds can be kept on disk and sent to the synthesizer when needed.

Among the leading sound editors are the *Sound Quest* range for PC, Amiga and Yamaha C1 – and Computer Music Systems are now distributing them.

Instruments supported include the DX, CZ, M1, K1 and MT-32 range of synthesizers and tone modules. As well as editing existing sounds, *Sound Quest* editors generate random sounds which users can then edit to suit their personal preferences.

All parameters are shown on screen at the same time, and sound envelopes are represented by simple line graphs to make editing easier.

Prices for the *Sound Quest* range start at £79.99.

Computer Music Systems: *6 Manor Road, Teddington, Middlesex TW11 8BG* ☎ (01) 977-4546.

C64 * CPC * PCW * ST

DTP update

8-bit DTP is still in the running, thanks to Database Software – they've bought the manufacturing rights to AMS's back catalogue of software for the C64, CPC and PCW, as well as the ST. The deal includes 11 packages, seven of which are DTP programs.

Stop Press is available in two versions, either with or without mouse, for the PCW (£49.99, £89.99 with mouse), C64 (£39.99, £69.99 with mouse) and CPC (£49.99, £79.99 with mouse). Also available for the CPC is another DTP package, *Extra! Extra!*, priced £24.99.

The remaining packages are *MAX* for the CPC (£19.99), *Desktop* and mouse for the PCW (£79.99), *ART* and mouse for the CPC (£69.99), and the popular *Flair Paint* for the ST (£34.99).

AMS (Advanced Memory Systems) are best known for their mice, and last year released *DTP Solution*, hailed as a major advance in cheap DTP (TGM**008**).

Database Software: *Europa House, Adlington Park, Adlington, Macclesfield SK10 4NP* ☎ (0625) 878888.

SPECTRUM * C64 * CPC * BBC

This sporting life

8-bit owners can jockey for a better position with new software from Boxoft – when you enter the form and starting-price forecasts from a newspaper, *Boxform* and *Handicap Winner* will quickly analyse the race and pinpoint the horses which represent the best value for money.

And *Football Boxform* analyses the form of all 218 clubs in the English leagues, the Scottish league and the four minor leagues. The program then displays the odds for home wins, away wins and draws. The computer also stores details of past form, which can be updated by entering the latest results.

Each program costs £11.95 for Spectrum, CPC, C64 or BBC B.

Also available for the Spectrum only is *Punter's Partner* (£4.95), which calculates the winnings from various types of bet.

Boxoft: *65 Allans Meadow, Neston, South Wirral L64 9SQ* ☎ (051) 336-2668.

PC

Personnel services

The servant problem is enormous – but at least businesses can keep track of their servants (sorry, employees) with Artronic's *Time Master*, the second title in the Master Series of business software

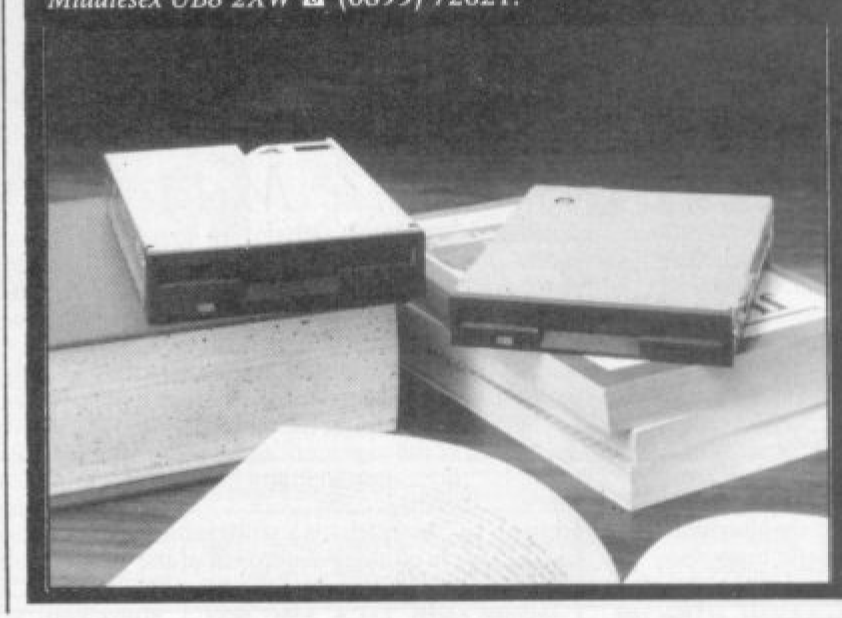
PC

The little and large drive

Fat no longer means happy for disk-drive/printer manufacturer Citizen – they're set to release a new range of 'the world's smallest' 3.5-inch disk drives. Two models, the UODC and UODD, were launched at Cebit, the Hanover computer show, in March.

Both are 19.5mm thick by 101.6mm wide by 130.0mm long and can read disks of up to 1Mb storage capacity; the UODC having a slightly faster track access time. Prices are still to be announced.

Citizen: *Wellington House, 4/10 Cowley Road, Uxbridge, Middlesex UB8 2XW* ☎ (0895) 72621.





for the PC.

The package provides a number of services to the employer, including staff files, client files, time sheets, work in progress, work charged to date, and disbursement codes.

Quote Master, the previous Master Series package, produces price lists and quotations for jobs.

Both packages cost £49.95.

Artronic: *1-3 Haywra Crescent, Harrogate, North Yorkshire HG1 5BG* ☎ (0423) 525325.

ARCHIMEDES

3-D anims

This month's TGM graphics special may be dominated by Amiga animation packages, but Archimedes owners aren't left standing still – thanks to Clares Micro Supplies and their 3-D animation package *Render Bender* (£79.95).

The program allows the user to design screens using 3-D objects. It's then a simple matter of joining the screens together to complete your animation.

Render Bender also uses advanced ray-tracing algorithms for a realistic effect. Ray-tracing is a novel way of producing stunning reflections and shadows true to the laws of optics: the software takes into account all the relevant light sources before the exact shade of each pixel is determined.

Clares Micro Supplies: *98 Middlewich Road, Rudheath, Northwich, Cheshire CW9 7OA* ☎ (0606) 48511.

PC

DTP bundle with Aries PCs

Watford Electronics have struck a deal to bundle AMS's DTP package *Finesse* with their range of Aries PC-compatibles.

Reviewed in Back Bytes TGM**013** *Finesse* is a full WYSIWYG ('what you see is what you get'), *GEM*-based DTP package.

Also included in the bundle is *Multiwriter2*, a word-processing package featuring a spelling corrector and mail-merge, a serial mouse and driver, MS-DOS version 3.3, and the *PC Organiser* software providing a pop-up diary and notebook. The entire bundle is worth about £300, say Watford.



Putting publishing on more desktops: bosses of Logitech UK (Nick Pearson, right) and Watford Electronics (Nazir Jessa, left) sign for a super PC deal. See item headed DTP Bundle With Aries PCs.

Reading matter

The Media Lab

Welcome to the future world

Ever wondered how you put a whole town on videodisk? Or create a hypertext soap opera? Or stop the computer shouting when you've got a hangover? These are the kind of things they're researching today at the Media Lab, a centre for technology experiments at the famous Massachusetts Institute of Technology (MIT).

And this 285-page in-depth look by noted American computer journalist Stewart Brand (*Whole Earth Software Catalog, Rolling Stone*) perfectly reflects the spirit of the Media Lab. Subtitled *Inventing The Future At MIT*, it's written in an eager, we-have-the-technology spirit, by a man who was obviously very impressed by the place. (Brand spent six months working there.)

But sometimes it would be nice to give the philosophy of technology a rest, and know a bit more about the machinery behind the futuristic marvels.

Brand gives enough teasers of that, both in the text and the 24 pages of colour photos; imagine a computer handling 500,000 onscreen polygons, or the ultimate parallel-processing box – the Connection Machine, with 65,536 processors!

And what's really remarkable about the Media Lab is that even though these things may never become common – or at least not in our lifetimes – they actually exist right now, in the Media Lab. It makes you want to visit Massachusetts.

The Media Lab: Penguin paperback £7.99, ISBN 0-14-009701-5. Any bookseller should be able to order it.

Barnaby Page

Blue Magic

In the beginning was the PC

Probably the best of the recent books about IBM's endless corridors of power, *Blue Magic* makes a refreshing change from the tales of management squabbling which dominate so many big-business stories.

Instead, it's a straightforward, chronological account of the development of the PC – and it throws up some amazing surprises. For instance, when IBM introduced that standard-setting machine in August 1981, they never expected it to sell big; within months, it had proved six times as popular as the doomsayers had forecast!

There's also a detailed look at the disastrous PCJr project of 1983, a failed attempt to produce a cheap home PC – it's only very recently those have successfully appeared from Amstrad, Atari and Commodore.

Authors James Chposky and Ted Leonsis are both experienced American computer writers, but (perhaps because IBM is such a megapowerful force on the American scene) they often take an annoying 'gee-whiz, weren't those inventors wonderful' attitude.

The book is sometimes sloppily written, too, repeating itself and veering from one topic to another (from component purchasing to the grim details of keyboard design . . .) like it's out of control. It's probably a case of information overload; these authors know a lot of minutiae from PC history, but can't quite figure how to fit it together.

Blue Magic is let down by these style problems, and by an occasionally poor index (no mention of the new OS/2 operating system, though it's in the text!).

But it's a fascinating insight into the early days of micros, not only the PC. And for anyone interested in how computers come into life, it deserves a place alongside Tracy Kidder's *The Soul Of A New Machine* and Ian Adamson and Richard Kennedy's *Sinclair And The Sunrise Technology*.

Blue Magic: The People, The Power And The Politics Behind The IBM Personal Computer, Grafton Books hardback £14.95, ISBN 0-246-13445-3. Any good bookseller should be able to order it.

Obituary: The Bug

It's a sad day for the computer industry. *The Bug* fanzine, which has been published periodically for the last five years, is about to disappear.

For, after 37 issues, the editorial team – Jaron Lewis, Jeffrey Davy and Kelsey Lewis – have decided to call it a day.

Jaron and Jeffrey will be starting at university in the autumn, while Kelsey is moving away from London. And with the editorial team dispersed around the country, it will no longer be feasible to produce the fanzine. But their work will likely continue to appear in other magazines – perhaps including TGM.

The Bug provided news, reviews and playing tips for the Spectrum CPC, PC and Amiga, but it was most well-known for its strong attitudes against software sexism and racism.

The final issue will be a commemorative edition packed with features, reviews and tips – there's even the possibility of a cover-mounted cassette game. Priced 55p, it goes on sale at the end of July.

Bug Publications: *28 Leaside Avenue, Muswell Hill, London N10 3BU. Several phone lines; check issue for details.*

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PRINTERS

Ink (reddable)

It's time for another roundup of the latest life-enhancing printer goodies from MGA Softcat.

First off are a line of products designed for use with the Star LC-10 printer. £19.95 will buy you a heat-transfer ribbon for printing patterns onto cloth; these ribbons are available for both the mono and colour models of the LC-10.

A motorised ribbon-reinker is available for single-colour (£68.50) and colour models (£108.50). And new single-colour ribbons can be bought in many, including blue, green, purple, red and brown, for £12.95 each.

For other makes of printers, motorised reinkers vary from £82.00 to £139.95, depending on the printer.

The reinking unit is very easy to operate. Just attach the worn-out ribbon to the reinker, fill the inkwells and set the unit in motion. It only takes approximately four minutes to reink a ribbon.

Wow, man

Don't despair if you see dinosaurs in trainers walking off a printer – those mushrooms on toast were okay.

For anything goes when you buy Computer Sensations printer stationery from MGA Softcat. Each sheet includes a whimsical border design – it may be bears going camping, jolly snowmen or a flower design. Splash out £12.95 for a shrink-wrapped pack of 100 sheets of microperforated, continuous-feed computer paper.

MGA Softcat: *Pear Tree, Appledore, Kent TN26 2AR* ☎ (0233) 83561.

PC

ArtMaster, a PC graphics editor for creating and altering *NewsMaster* and *PrintMaster* clip-art graphics, has been rereleased at £19.95.

It includes such drawing facilities as individual pixel editing, mirror-imaging and cut-and-paste.

And though *NewsMaster* clip-art graphics are limited in size, *ArtMaster* allows you to work on graphics enlarged to three times their final size, thus allowing more detail.

MGA Softcat: *Pear Tree, Appledore, Kent TN26 2AR* ☎ (0233) 83561.

ST

Turn on, tune in, trip out

ST owners can now connect their computers up to a hi-fi for really stunning sound, buying the necessary lead from Robson Electronics.

The £7.95 lead plugs into the monitor socket on the back of the ST, so it can only be used when the screen display is on a TV. On hi-fis, it connects with the line input phono sockets.

Robson Electronics: *Newcastle House, High Spen, Rowlands Gill, Tyne and Wear NE39 2BL* ☎ (0207) 543053.

AMIGA

Virus killer for 50p

In response to TGM016's article on viruses, reader Charles Elliot of Surrey is offering a virus killer (VirusX 3.1), which he says will wipe out all known Amiga viruses for 50p and a blank disk.

He also points out that many viruses have a 'back door' which will remove them from memory.

The SCA virus can be deleted from RAM by holding down the left AMIGA key during a reboot.

And the Byte Bandit Revenge virus can be disabled by holding down the left mouse button and the FIRE button on a joystick, again during a reboot. The joystick must be in port 2.

The Byte Bandit virus can also be 'cured'. When it strikes, the TV or monitor will seem to go dead; so simply hold down the bottom five keys (left ALT, left AMIGA, the space bar, right AMIGA and right ALT), and you can carry on as normal.

But note that this does NOT remove the virus from memory!

■ VirusX 3.1 is available from Charles Elliot, 41 Pennington Drive, Weybridge, Surrey.

We have no reason to doubt Elliot's honesty, but we'd still advise you not to use his program on any important virus-carrying disk till you've tested it on a less important one.




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Trap Door 1 or 2	£1.99
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Uridium	£2.99
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Bombjack 2	£2.99
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HARDWARE

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Amiga A500 + Mod 1/2 Meg	£479.00
Amiga A500 + Mod	£369.00
Amiga 1/2 Meg Expansion + Cumana 1 Meg Drive	£237.50
Cumana 1 Meg Drive	£99.00
Amiga 1/2 Meg Expansion	£149.00
CBM 64 Hollywood Pack + software joystick etc	£149.00
Sega Master System	£79.00

SOFTWARE CITY SPECIALS

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Magnetron	Magnetron	Rasputin
Mystery on the Nile	Speedking	Mystery Nile
Earthlight	Ranarama	Kinetik
Riddlers Den	Pesky painter	Hive
Toy Bizarre	Chain Reaction	Deep Strike
Fat Worm	Sigma 7	Flunky
Thanatos	Jack the Nipper 2	Deactivators
Deactivators	Heartland	Star Raiders
Sigma 7	Scary Monsters	Chain Reaction
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****

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****

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SPECTRUM CASSETTE

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Beach Head 2	£2.99
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Black Beard	£2.99
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Bombjack	£1.99
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Bruce Lee	£1.99
Butch Hard Guy	£1.99
Cauldron 1 or 2	£1.99
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Commando	£2.99
Contact Sam Cruise	£2.99

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Ram Delta	£9.95
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COMMODORE DISC

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Stargoose	Amiga	4.99
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Wizard Warz	Amiga	9.99
Marble Madness	Amiga	9.99

AMSTRAD DISC

Bard's Tale	£9.99
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Flunky	£2.99
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3 in disks: £2.90 each, £25.00/10, £57.50/25
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COMMS

TREADING THE BOARDS

All the world's a stage on bulletin boards, where hackers, gossips and sentimental lovers form a cast of thousands. Zog reports on the systems that let you chat by modem.

It was late, late enough for British Telecom to lower phone charges for the night. It was late enough even for the 'All lines from London are engaged – please try later' cassette to be removed, steaming from overuse, and cooled in a bath of ice cream. Nothing much was happening with the network, so BT engineers reconnected the loose ends of the system for the night and went home out of boredom. Around a darkened England, small furry mammals squeaked and owls hooted. Meanwhile, indoors, modems whistled at each other and scampered through bulletin boards . . .

Scattered across the country, small bulletin boards (or BBs) can be found in the oddest of places. They can be run from a small room in the centre of Birmingham or a barn in the middle of the country. The only things they have in common is that they're run by dedicated part-timers, and they're usually free.

A BB is just what it sounds – an electronic blackboard, on which electronic passers-by can read, and leave, information. All they need is a computer, a modem and a phone line.

And even for running a BB, the basic setup is quite simple. You need a micro, preferably with a hard disk; a phone line; and an autoanswer modem for the line. You also need some sort of BB software. This can be as simple as a home-written program which allows users to store a message or read any of the last 256, say – but if you want to get clever, BB software can consist effectively of full databases, with thousands of messages, and message chains leading from each interesting message to its replies in the chain.

Whether you're in charge of the BB or a plain old user, simple commands will let you search for subjects you're interested in, or look for messages by certain people, or on a certain date. The messages are grouped into several separate 'boards', each for a different subject. The program will store your position on each board, so the next time you log in you can read on from where you left off.

BBs are all run, usually for love rather than money, by the sysop (system operator). The person wearing the sysop hat has to check that the system is working, and regularly read all the messages in case someone tries to leave a rude one. Yes, they can even read those private ones between Fluffy Cuddles and Bunnikins (you know the sort), but then if someone wants to log into a BB as Bunnikins they have to expect a laugh.

Sysops: numbers or free men?

Sysops, the people who run bulletin boards, seem like generous folk. They splash out on a phone line or two, or they give up their only phone line for a few hours every evening to allow people to call in.

But why do these kindly people, who've unflinchingly donated space from their hard disks, do it?

Well, some just do it because it's possible. They write the database and the comms software as an exercise, and since it doesn't cost much to run, they keep it going.

Many of them use the same equipment during the day for work, and switch over to a BB at night.

Incoming calls are all free anyway, and sysops working with computers may make a few useful contacts that help them in their day jobs.

Sysops and users with sysop privileges get to keep an eye on the whole system, because it seems there's always someone somewhere who delights in electronic graffiti. Fortunately, it's dead easy to wipe the offending message off the disk!

Free software

If you can store messages on a BB, of course you can store program code too. So someone can load up a new program or utility, and then when you log in you can download the software onto your computer, save it to disk, and keep it.

Of course, it may not quite work properly, but the stuff is free apart from the phone call, and if it's source code rather than an .EXE file you can always tweak it to your own satisfaction.

So BBs tend to be associated with public-domain software, and spreading information freely around. Some are specialist – for example, CBBS in London is mostly Speccy stuff – but many are more wide-ranging.

Of course, all this information floating around has its limitations too. Operators of BBs generally try to be responsible, but rely on their users to police the system, since they themselves obviously can't manage be online 24 hours a day.

Apart from the annoyance of morons leaving messages full of rude words, people have been known to leave 'utilities' which are not all they seem. Several unscrupulous characters have used the free-software facilities of BBs to upload viruses onto unsuspecting punters.

So be cautious – take steps to protect your own system. Be especially cautious of people advertising 'virus killers' on BBs (or anywhere else where there is no way of tracing the supplier). As has been noted before now, one of the best ways to hide a crook is to disguise him as a policeman!

Using the BB just to exchange messages with Bunnikins is totally safe, of course, so have fun. Maybe you'll even find other strange rabbitlike personas out there . . .

■ *Zog is TGM's comms columnist. His real name is Fluffy Wet-Ears Bunnybaby.*

BB CONTACTS

Here are the modem numbers of some popular BBs, and the baud rates required to reach 'em. All are open 24 hours a day.

A little while on one BB may produce information on other boards that are closer to you and thus cheaper to call. BBs can be quite friendly to you, if you are to them!

Academics (021) 705-9677
Birmingham; 300, 12/75 baud

Bob's Bizarre
(0394) 279644
Felixstowe; 300-2400 baud

Ivory Tower
(0245) 415321
Chelmsford; 300, 12/75 baud

Lap of the Gods
(01) 994-9119
London; 300, 12/75 baud

Lazer Tower
(0272) 783733
Bristol; 300-2400 baud

London Underground
(01) 863-0198
London

Mektronic
(061) 733-7739
Manchester; 300-2400 baud

GREAT COMMS JOKES

■ *What do you call Polly's privates?* Parity bits!

■ *What did the modem say to the dentist?* Stop bit you're hurting me!

■ *Why did the data cross the cable?* Because it was baud!

■ *What do modem manufacturers do in the summer?* Make Hayes while the sun shines!

■ *Where do comms experts leave messages for each other?* A bulletin board! *(That's not funny – Ed)*

GUIDE TO INDEPENDENT REPAIR SERVICES

No matter how much you care for a computer, eventually something goes wrong. And you can bet your life it'll happen after the guarantee has expired, so you can forget about sending it back to the manufacturers. In most cases, they won't want to know.

- Before packing your computer off to a repair firm, check to see if your local computer dealer can recommend a local repair outfit.
- Phone the company you choose and try to get a rough guide of the cost of the repair, how long it will take – and whether they'll give a warranty to do it again for free if the repair doesn't work.
- Make sure that the quoted price includes parts, labour, VAT, and return postage.
- When sending your computer by post, pack it carefully – preferably in the original box.
- Always include a letter with your name, address, and telephone number and the effects of the fault.
- Send the whole package by recorded delivery – just 24p on top of the stamp cost – and pay the extra cash for an advice-of-delivery slip (25p if you ask for it when you post the package, 65p if you leave it till later). That way you know it's got there.

COMPANY **A1 Computer Services.**
ADDRESS *Unit 9, Paddock Mount Offices, Dawley, Telford, Shropshire TF4 3PR* ☎ (0952) 502737.
COMPUTERS REPAIRED 'Virtually any computer' – including Spectrum, C64/128, BBC, 16-bits, C16, Vic20 and Plus 4.
PERIPHERALS REPAIRED Printers; full disk-drive service for £25.
PRICES Mostly £25-£30, but C128 is £42.50.
WARRANTY Three months.

COMPANY **BCL (Best Computers Ltd).**
ADDRESS *Galaxy Audio Visual, first floor, 230 Tottenham Court Road, London W1A 3AP* ☎ (01) 631-0139 or 580-6640.
COMPUTERS REPAIRED All 8-bit and 16-bit including PCs.
PERIPHERALS REPAIRED All.
PRICES A typical small repair would cost £15-£20.
WARRANTY Six months.
ADDITIONAL INFORMATION Free estimates. Galaxy Audio Visual also sell micros.

COMPANY **Cambridge Micro Surgery.**
ADDRESS *Unit 4, 377B Cherry Hinton Road, Cambridge CB1 4DH* ☎ *(0223) 410234.*
COMPUTERS REPAIRED Spectrum, C64, BBC, Amstrad, PCs.
PERIPHERALS REPAIRED Printers, monitors, disk drives etc.
PRICES Cheapest is 48K Spectrum at £18.95 plus cost of parts; others from £23.50.
WARRANTY Three months.
ADDITIONAL INFORMATION Will provide annual maintenance for business micros, on a contract basis.

COMPANY **The Computer Factory.**
ADDRESS *Analytic Engineering Ltd, Unit 18A, Grainger Road Industrial Estate, Southend SS2 5DD* ☎ (0707) 618455.
COMPUTERS REPAIRED All major models except Atari.
PERIPHERALS REPAIRED Disk drives and printers.
PRICES £7-£40.
WARRANTY Three months.
ADDITIONAL INFORMATION Free estimates.

COMPANY **Hindley Electronics.**
ADDRESS *97 Market Street, Hindley, Wigan, Lancashire WN2 3AA.* ☎ *(0942) 522743.*
COMPUTERS REPAIRED Spectrum, C16/64, Vic20, CPC.
PERIPHERALS REPAIRED Some.
PRICES Set price for each machine, ranging from £17 (48K Spectrum) to £25. 1541 disk drives £32.50.
WARRANTY Three months.
ADDITIONAL INFORMATION Average two-day turnaround – well quicker than the average.

COMPANY **HS Computer Services.**
ADDRESS *Unit 2, The Orchard, Warton, Preston, Lancashire PR4 1BE* ☎ (0772) 632686.
COMPUTERS REPAIRED All Spectrums.
PERIPHERALS REPAIRED Phone.
PRICES From £14.95.
WARRANTY Three months.

COMPANY **Ladbroke Computing International.**
ADDRESS *33 Ormskirk Road, Preston, Lancashire PR1 2QP* ☎ (0772) 21474 or 27236.
COMPUTERS REPAIRED Mainly Atari.
PERIPHERALS REPAIRED Printers and disk drives.
PRICES According to machine – for example ST £34.50, XL/130 XE £23 (these prices include VAT).
WARRANTY Phone for information.

COMPANY **Microtech Computer Services.**
ADDRESS *216-219 Cotton Exchange Building, Old Hall Street, Liverpool L3 9LA* ☎ (051) 236-2208.
COMPUTERS REPAIRED ST, Amiga, BBC, Amstrads.
PERIPHERALS REPAIRED Printers, monitors; also electric typewriters and other office equipment.
PRICES Start from £30 – call Mike Lopez at Microtech for a quote.
WARRANTY Three months.

COMPANY **MP Electronics.**
ADDRESS *Wendling, Dereham, Norfolk NR19 2LZ G*☎ (0362) 87327.
COMPUTERS REPAIRED Spectrum, C64, BBC B, PCs – in fact all major makes *except* ST and Amiga.
PERIPHERALS REPAIRED Printers, plotters, monitors, disk drives etc.
PRICES All-inclusive prices for most machines – 48K Spectrum £15, 128K Spectrum, BBC B and C64 £27.50, PCs from £20-£100+. These rates cover all faults *except* those caused by other people's botched repairs!
WARRANTY Phone for information.
ADDITIONAL INFORMATION Free estimates. £20 repair and overhaul service for 48K Spectrums – MP Electronics replace sockets, keyboard membrane etc and will repair any faults that develop within six months of overhaul.

COMPANY **Ortec Micro Computers.**
ADDRESS *ORC GEC ITEC, GEC Switch Gear, Distribution Division, Higher Openshaw, Manchester M11 1FL* ☎ (061) 301-2210.
COMPUTERS REPAIRED All home micros and PCs.
PERIPHERALS REPAIRED Printers, monitors and disk drives.
PRICES Depends on fault – phone for details.
WARRANTY Three months.

COMPANY **PM Engineering.**
ADDRESS *Unit 8, New Road, St Ives, Cambridgeshire PE17 4BG* ☎ (0480) 61394.
COMPUTERS REPAIRED All home computers.
PERIPHERALS REPAIRED Printers, monitors and disk drives.
PRICES Phone. There's a set repair price for each computer, regardless of the fault and including all parts and labour.
WARRANTY Three months.

COMPANY **RA Electronics.**
ADDRESS *133 London Road South, Lowestoft, Suffolk, NR33 0AX* ☎ (0502) 566289.
COMPUTERS REPAIRED All Spectrums.
PERIPHERALS REPAIRED Phone.
PRICES Spectrum 48K £14, Spectrum 128K £20.
ADDITIONAL INFORMATION RA Electronics also sell components.

COMPANY **Roebuck Designs.**
ADDRESS *Victory Works, Birds Hill, Letchworth, Hertfordshire SG6 1HX* ☎ (0462) 480723 or 480929.
JOYSTICKS REPLACED Roebuck Designs run a clever joystick-replacement service which offers faster turnaround than a repair firm might.
Send in your broken joystick – any model – and they'll send back a second-hand but working stick of the same model. Later, they repair yours and pass it on to another customer.
PRICE £4.50 including return postage.

COMPANY **Swindon ITEC.**
ADDRESS *6 Oppenheimer Centre, Greenbridge Road, Swindon SN3 3JD* ☎ (0793) 611808.
COMPUTERS REPAIRED Spectrum, C64/128, BBC B and Master series, CPC.
PERIPHERALS REPAIRED 5.25-inch disk drives, monitors, cassette-deck alignment.
PRICES Spectrum from £18, others from £25 (but small repairs may be cheaper).
WARRANTY Three months.
ADDITIONAL INFORMATION Most repairs should be done within seven working days.

COMPANY **Telegames.**
ADDRESS *Kilby Bridge, Wigston, Leicestershire LE8 1TE* ☎ (0533) 880445 or 813606.
CONSOLES REPAIRED Atari VCS2600, Colecovision, Intellivision, Sega.
PERIPHERALS REPAIRED Phone to ask.
PRICES VCS2600 £17.95, Colecovision £14.95, Intellivision £19.95, Sega £14.95.
WARRANTY 90 days.

PRESS ANY KEY

ADDITIONAL INFORMATION Telegames promise to return the console to you just *three days* after they've received it. They're also the official UK repair centre for Sega and Colecovision.

COMPANY **Verran Micro-Maintenance.**
ADDRESS *Albany Park, Frimley Road, Camberley, Surrey GU15 2PL* ☎ (0276) 66266.
COMPUTERS REPAIRED Spectrum, Amstrad, Commodore.
PERIPHERALS REPAIRED Printers, monitors.
PRICES Range from £19.95 for Spectrum to £95 for Amstrad PC1512.
ADDITIONAL INFORMATION Established six years. Approved by Amstrad.

COMPANY **Video Vault.**
ADDRESS *140 High Street West, Glossop, Derbyshire SK13 8HJ* ☎ (04574) 66555.
COMPUTERS REPAIRED Most.
PERIPHERALS REPAIRED Phone.
PRICES From £19.95, according to machine.
WARRANTY Three months.
ADDITIONAL INFORMATION While-you-wait service in Manchester.

COMPANY **Wight Computing Home Micros.**
ADDRESS *122 High Street, Ryde, Isle of Wight PO33 2SU* ☎ (0983) 68978.
COMPUTERS REPAIRED Most.
PERIPHERALS REPAIRED Printers and monitors, but check first that the service is available for older models.
PRICES According to the problem.
WARRANTY 90 days.
ADDITIONAL INFORMATION Wight Computing will also check, clean etc computers which are not obviously faulty.

COMPANY **WTS Electronics.**
ADDRESS *Studio Master House, Chaul End Lane, Luton, Bedfordshire LU4 8EZ* ☎ (0582) 491949.
COMPUTERS REPAIRED Spectrum, Commodore, BBC, others.
PERIPHERALS REPAIRED Phone.
PRICES £14-£45; fixed price for each machine.
WARRANTY Three months.
ADDITIONAL INFORMATION WTS Electronics promise to complete the repair within one week from the day they receive the machine.

COMPANY **Wynter Electronics.**
ADDRESS *Unit 30F, Atlas Village, Oxgate Lane, Staples Corner, London NW2 7HU* ☎ (01) 452-5660.
COMPUTERS REPAIRED Spectrum, Commodore, BBC, Atari, PCs.
PERIPHERALS REPAIRED Phone for details.
PRICES £18 upward, depending on machine.
WARRANTY Three months.
ADDITIONAL INFORMATION Repair done in one week.

COMPANY **Electronic & Computer Services.**
ADDRESS *1000 Uxbridge Road, Hayes, Middlesex UB4 0RL* ☎ (01) 573-2100.
COMPUTERS REPAIRED The full range of home computers – that includes all the well-known 8-bit and 16-bit machines.
PERIPHERALS REPAIRED Electronic & Computer Services will repair some peripherals, but write or phone for details in case yours isn't included.
PRICES According to the problem. Phone for a quote.
WARRANTY Write or phone for details. The warranty only covers the problem repaired, not the whole computer.
ADDITIONAL INFORMATION Turnaround varies, depending on the problem, from two days to a week.

Electronic & Computer Services also sell spare parts. Again, write or phone for details.



It's a poor man's world

Worried about repairs costing more than you bargained for? Achieve transcendental peace of mind with VSE Technical Services – the South London company charge a standard price for each machine, which covers everything except very major repairs like keyboard or disk-drive replacement.

Spectrums range from £12.90 to £17.90 (depending on model); C64 is £19.90, C128 £24.90; CPCs range from £21.90 to £24.90; and all PCWs are £31.90.

Parts, labour, VAT and return postage within the UK are all included – and there's an unusually long four-month warranty,

This is the place to go if you're the owner of a sick Opus Discovery, too, for partner Ian Vaudrey is official repairperson for the Sinclair Discovery Club.

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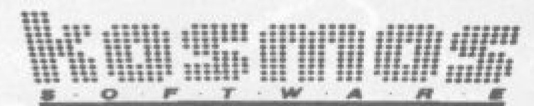
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INFORMATION DESK

There's more to music than meets the ear, as one reader trying to set up a low-cost ST studio has discovered. The Back Bytes experts recommend best buys – and tackle yet more Amiga questions.

Cheap solution to ST sequencing

1) I own an Atari 520STFM, and I'm considering buying a Yamaha PSS 480 synthesizer and connecting it to my ST via MIDI. What would be the best sequencing software to buy, bearing in mind I've only got a budget of approximately £60?

2) Once I've written my music, could I record it on tape on my hi-fi?

3) Should I include either the Replay version 4 sampler or Pro Sound Designer in my set-up?
Andrew Murphy, Hull

1) There are two packages in your price range: Dr T's *MRS version 1.1* (£49.95) and Hybrid Arts's *Easy Track* (£59.95).

MRS is described as an 8-track sequencer for first-time users, and features most basic sequencing commands. It's also upwardly compatible with Dr T's sophisticated *KCS* sequencer.

However, TGM music writer Graham Wayne recommends the Hybrid Arts package – with 20 tracks, it's a good introduction to sequencing software.

MRS is available from NCX, ☎ (01) 258-3454. And you can order *Easy Track* from Syndromic Music, ☎ (01) 883-1335.

2) Yes! Provided you've got the correct connection leads from the PSS 480's output port to the hi-fi's input port, you shouldn't have any problems taping your music.

3) No! Neither *Replay version 4* sampler nor *Pro Sound Designer* is of any use to you. As the ST isn't multitasking, it can't run the sampler software and the sequencer at the same time. If you really wanted to use either *Replay* or *Pro Sound Designer* in your set-up, you'd need a second ST linked to the first via MIDI.

On the right track to a PC Engine

I've recently read in TGM all about the new PC Engine. Could you please tell me where I can get hold of one and how much it will cost?
M Hurcombe, Lichfield

The PC Engine is at last *officially* available in the UK – a firm called Micromedia are buying them in from Japan and selling them here for £224. Micromedia are also negotiating a deal with the Engine's manufacturers, NEC, which could see the console in the shops within two months.

Micromedia: *The Moor Hall, Ludlow, Shropshire SY8 3EG* ☎ (0691) 655979.

C64 goes public

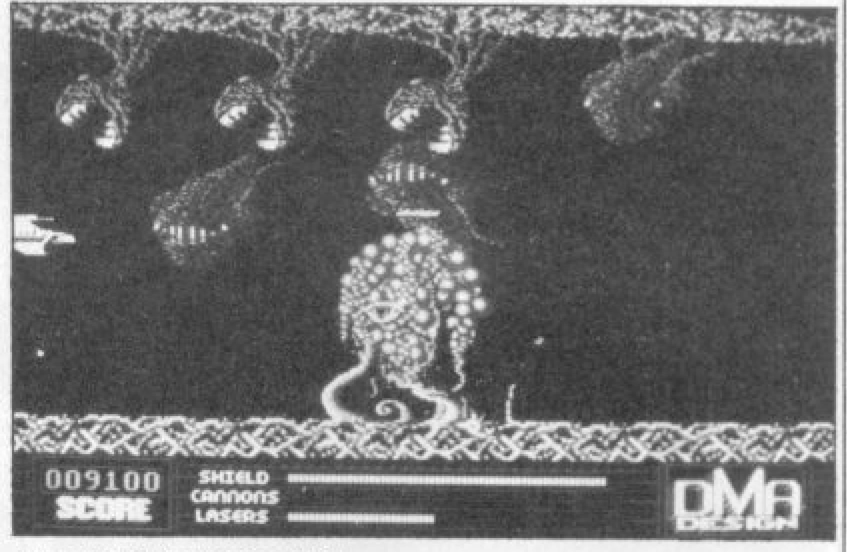
Is it possible to get public-domain software for the C64 on disk? If so, where from?
Matthew Taylor, Balcombe

Kingsway Computers supply public-domain (PD) software and shareware for a variety of computers including the C64/128, Amiga and ST. Software for the C64/128 costs £2.95 per 5.25-inch disk.

For a full catalogue send an SAE, specifying which machine you're interested in, to Kingsway Computers, *140 Rushdale Road, Sheffield S8 9QE* or ☎ (0742) 588429.

CPC Psyclapse

Could you please tell me whether there are any plans for Amstrad CPC conversions of Psyclapse's Baal and Menace?
Kevin Buttivant, Cheam



Menace: will the classic go CPC?

There are no immediate plans to put either of these excellent games on the CPC, but Psygnosis – who publish the Psyclapse label – say there is the possibility of conversions appearing later in the year. Keep an eye on the previews.

Amiga anxieties

The last resort

I've recently bought a second-hand Amiga A500 and a friend of mine has lent me Commodore's disk The Very First to help me learn how to use Workbench properly. However, I'm finding is very slow and tedious to use.


The Very First: introductory irritation

What would you recommend?
Michael Morse, Berkshire

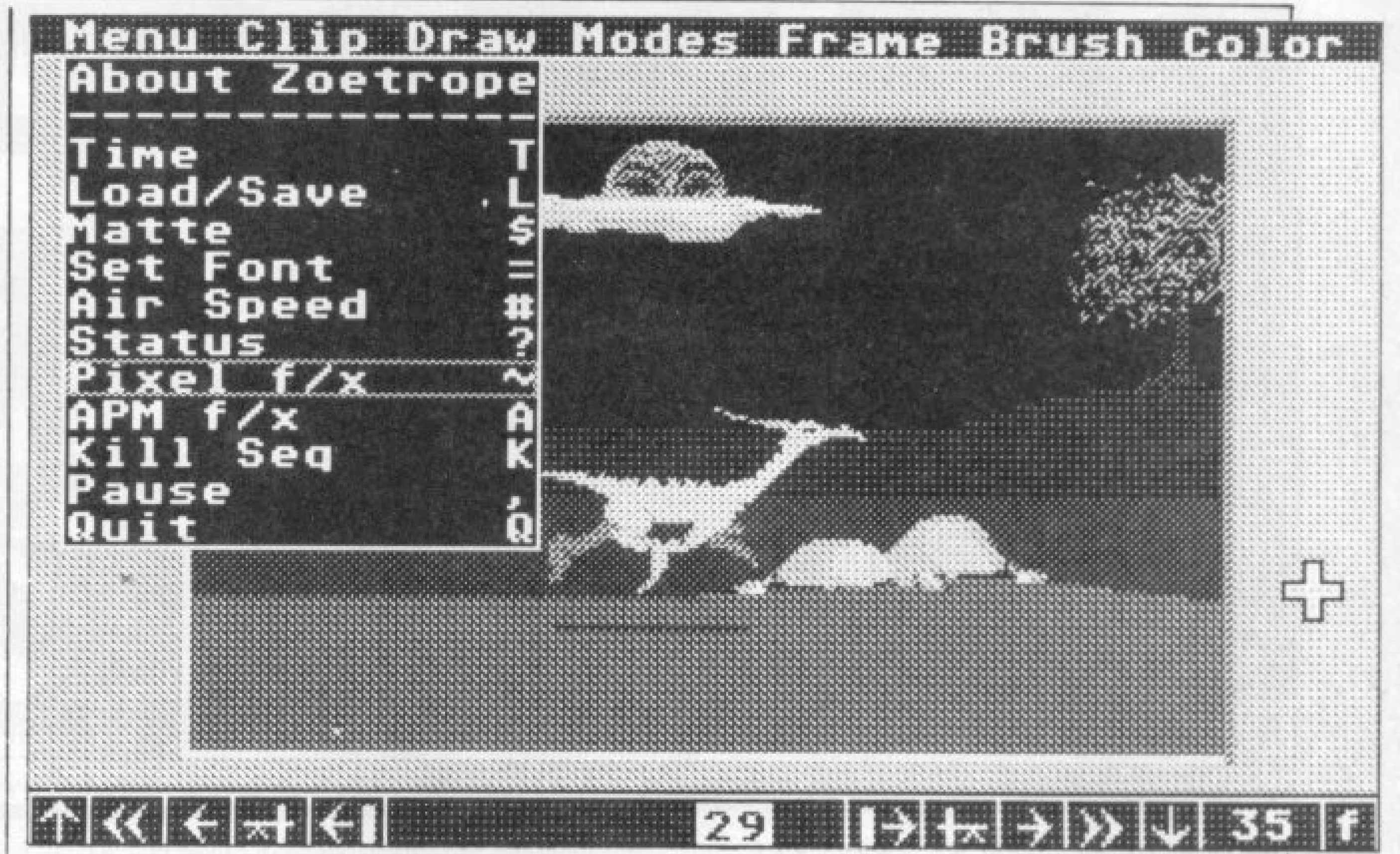
The Very First? More like the very worst if you ask TGM. We've found the program infuriatingly slow and rather patronising at times. Our tip is to read the *Workbench* manual and persevere!

Driven crazy

I own an Amiga A500 which I bought to design graphics. However, several of the art packages I own involve a lot of disk-swapping, which can be very frustrating when you're trying to locate a saved brush quickly. Where can I get hold of a second drive without breaking the bank?
Robert Jobs, Liverpool

Evesham Micros stock external 3.5-inch drives compatible with both the Amiga and the ST, for £89.95.

Evesham Micros: *63 Bridge Street, Evesham, Worcestershire WR11 4SF* ☎ (0386) 765500.



Antic animation action: a Zoetrope screen

Wozzese megger bites then John?

1) Can an Amiga A500 with a 0.5Mb expansion board run software marked 'Requires 1Mb'?

2) What are the differences between an Amiga A500 with a 0.5Mb expansion board and an Amiga A2000?

3) Are there any known problems with the 0.5Mb expansion board?

4) Does the Super ST exist?
Angela Gale, Morecambe

1) Yes.

2) In terms of software compatibility there are no differences between an Amiga A500 with RAM expansion and an Amiga A2000. The A2000 is aimed primarily at business users, and includes more expansion ports and a detachable keyboard. It's also available with a hard disk.

3) At TGM we use an Amiga A500 with a RAM expansion board, and so far we haven't experienced any problems.

4) Atari have recently acknowledged the existence of a Super ST, but don't expect anything for a while yet.

Cartoon capers

Could you please tell me of any program on the Amiga that allows you to create animation and save it so it runs independently? This would be ideal for creating public-domain demos.
Grant Robson, Bridge of Weir

Antic's *Zoetrope* is ideal for creating your own animation sequences. The package includes all the necessary art tools to draw your graphics, along with comprehensive animation commands. For more details see this month's review.

Awed by animation? Bewildered by benchmarks? Concerned about composite video? Disenchanted with disk drives? Send all your computing questions to Information Desk, TGM, PO Box 10, Ludlow, Shropshire SY8 1DB.

We try to answer every inquiry, but sorry – no personal replies, even with an SAE. (Well, if you send an SAE, you will get a reply – but it'll take a long time to clean up.)

A-OK ST WP

I have bought an ST largely for word processing as well as games, and I'm sure there's a better program than 1st Word out there somewhere. Can you recommend one?
Lee Montgomery, Stevenage

Looking at ST word processors, you'll probably be bemused by the sheer number of products available – and the vast range of prices. But, as with any software, it's important to decide clearly exactly what you want to do.

Many people use word processors for little more than writing letters, and if this is your position *1st Word* really should be sufficient.

However, if you're going to undertake more complex work, like report-writing, we recommend Arnor's *Protext version 4*. It works on all STs, and its comprehensive features make it tremendous value for money.

Protext comes on three disks: the main program disk, the dictionary/help disk, and the printer drivers/tutorial disk. After making backup copies (don't forget it!), the easiest way to get going is to read through the quick-start guide, load *Protext* and run through one of the tutorial files.

The range of functions soon becomes clear, and with full WYSIWYG ('what you see is what you get', ie screen display is the same as printout), text manipulation by way of cut-and-paste, underlining and the usual word-processing features, preparing impressive documents soon becomes a doddle.

Protext will let you have files of any size (up to the capacity of your disk). You can have two separate documents loaded into memory and instantly switch between them (useful if you're trying to cross-reference two complicated documents, say). And you can edit files created by other word processors – you've probably already got loads of files in *1st Word* format lying around.

You have full find-and-replace facilities, and can even go back to a word earlier in the file if you forgot to replace it (an unusual but useful feature).

The spelling-checker operates from a 70,000 word dictionary (which you can add to) and you can even spell-check while typing.

And there's more . . .

For anyone mailing personalised duplicate letters, *Protext* provides comprehensive mail-merge facilities.

Typewriter mode allows you to type directly onto the page. And crossword enthusiasts can even use *Protext* facilities for finding words in its own dictionary, including anagrams.

But what immediately sets *Protext* apart from its rivals is that it bypasses *GEM*. With no pull-down menus and no mousing around, its speed puts it in the big league. Once you've learned the key functions you're away.

Don't worry if you're prejudiced against a particular key – *Protext* allows you to set any function to any key.

A configuration program allows you to customise *Protext* to your own printer and screen-layout requirements (nearly all printers are supported, including laser), and if you've got a colour monitor you can even change the colour of both ink and paper (though not the border – a minor irritation).

On the minus side, though *Protext* is easy to get into at first, it can be tough to get to grips with the more sophisticated functions.

The manual is forbidding at first sight, and it's difficult to locate exactly what you're after, given the number of modules in the binder. So don't expect it all to fall into your lap before you've spent some time getting to know the system.

At its price *Protext* is without doubt the best word processor available for the ST, but make sure you really need *all* those functions before parting with the hard stuff.

Arnor: *611 Lincoln Road, Peterborough PE1 3HA* ☎ (0733) 68909.

READERPAGE

"With any luck, software companies won't let the Konix console go to waste like the Amiga and ST"

Prizewinning reader Matthew Randall fears we may be disappointed – and adds a tip for arcade owners





Konix Multi-System: will the power be wasted? See Star Letter.

The way of all silicon

Dear TGM
After reading your brilliant article on the Konix console, one thought sprang to mind. This seems exactly what most magazines did when the Amiga and ST came on the market. The trouble seems to be that you buy all this new, up-to-date technology, but half of what you pay for is never used.

It's all very well having your possible 25 channels of sound, 4,096 colours and a blitter if companies never use them.

Take a classic example – *Out Run*. They said US Gold used all all their money on the licence and had very little left over for development. The game was terrible, but it still it sold.

There are only a handful of writers bothered to make their games worthy of the computers they're written for; with any luck, software companies won't let the Konix console go to waste like the Amiga and ST have.

Another article I liked was the section on the ATEI show. I've played *Stryder*, *Shadow Warriors* and *Hard Drivin'*, which are well worth the money. One problem I have is trying to find that little bit of extra change to beat the continue time, which in some cases is a fate worse than death (played *Shadow Warriors* yet?).

But someone has already solved that sort of problem: with the Phonecard you use on those nice green telephone boxes. Why can't the same be applied to arcade machines, next to the coin slot? Then all you'd have to do would be take your 100-unit arcade card, instead of a pocketful of change.
Matthew Randall, Hounslow

What you say about unused potential is true. But, say, 20% of a Konix Multi-System's potential is better than 20% of a ZX81's potential!

A coin-op card would certainly benefit players, but the arcade owners might find that they lost some money because no-one would go back to the beginning when they missed a continue. On the other hand, it would probably encourage people to play more . . . which you can afford now.

Violence rules, or I'll kick your head in

Dear TGM
I have just read the article Are You Shooting Comfortably? in TGM**015**, about software violence. I think software violence is a good thing, as it allows me and my friends to take out our anger on something that is not real.

Often I come from school, having been annoyed all day, and I load in a violent game. Killing people who are not real (*Operation Wolf*) or watching spaceships that don't exist explode into tiny pieces (*Star Wars*) is very satisfying, and will usually calm me down.

Before all this, though, I used to take my anger out on real objects (usually biros or cassette cases).

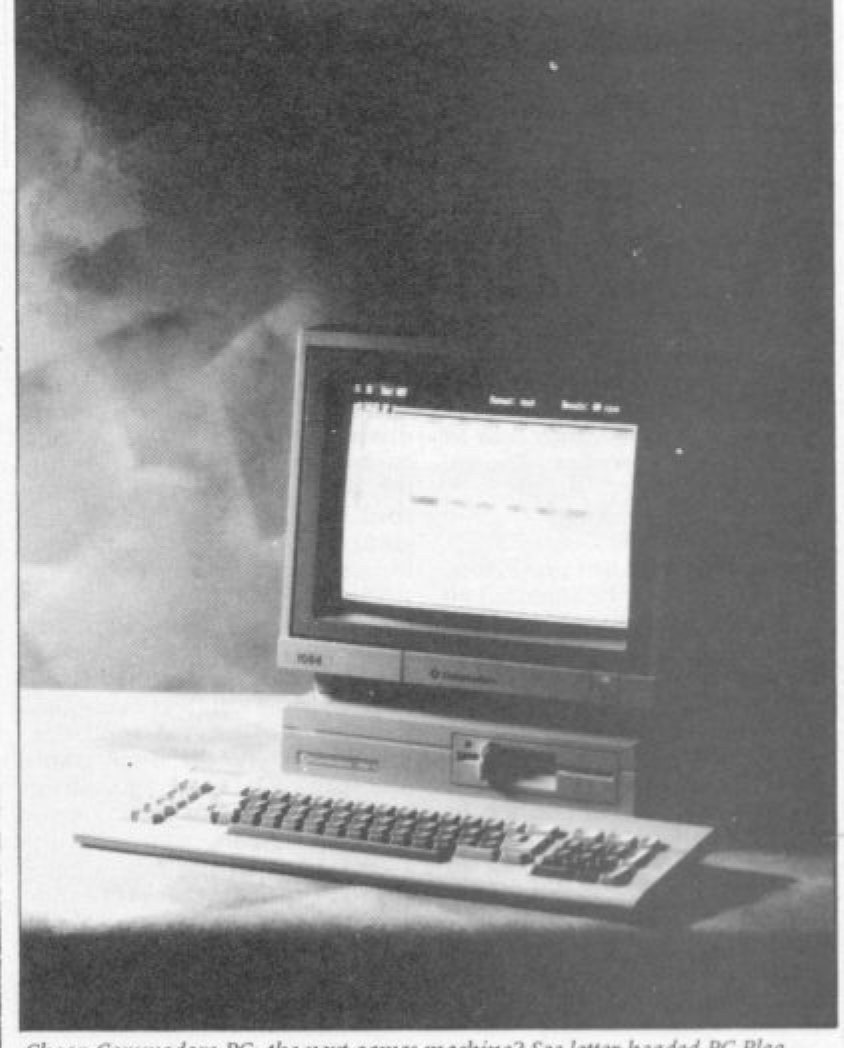
Films work this way, too. When people watch violent films (such as the excellent *Die Hard*), all their annoyance can be taken out on the characters in the film. This, again, saves real people or objects being hurt or damaged. Stories that link films with real violence (such as Michael Ryan and *Rambo*) are nonsense.

Anyway, Rambo is a good wholesome American, who only kills commies. I have never seen him kill innocent civilians.
Michael Hughes, Heanor, Derbyshire

It seems your irritations are pretty slight, because surely REAL annoyance can never be wiped away just by playing a game.

PC plea

Dear TGM
Why are home PCs not more popular in Britain? Americans see them as the perfect home computer, with their sophisticated hardware and wide choice of software. Despite the weird-looking Sinclair Professional PC letting the



Cheap Commodore PC: the next games machine? See letter headed PC Plea.

side down, there are many excellent, affordable PCs around. Software is rapidly expanding, and cheaper computers are becoming available (eg the Commodore PC1).

My prediction for '89 is the success of PCs as games machines.

Neil McFlid, Edinburgh

Right and wrong. A top-of-the-range PC certainly beats the ST and Amiga in any area (except sound), but then it can easily cost £2,000.

Um, yes . . .

Dear TGM

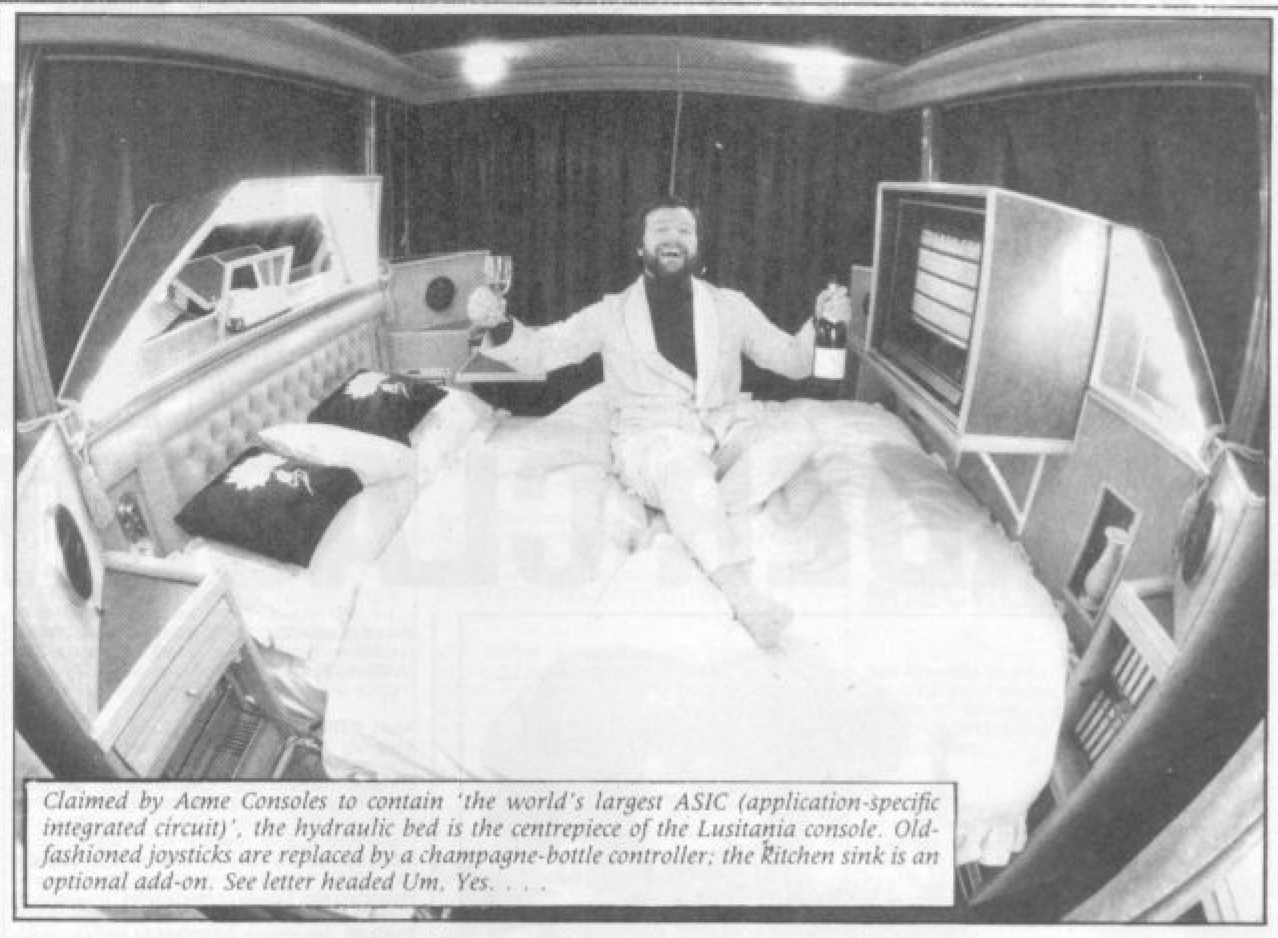
Us consumers are surrounded by total confusion. Quite a few people will miss out on buying the PC Engine or Konix Multi-System in case Acme or someone brings out a new console which has been kept a secret for the past two centuries and comes complete with built-in microwave and inflatable full-size F-19 stealth figther with onboard hydraulic chair which houses a commode!

Arthur Adams, Luton

Acme Consoles of Wigan were rather concerned when they heard we'd received this letter, as news of their Lusitania console (based on the recently-discovered sketches of Leonardo da Vinci, 1452-1519) has been a closely-guarded secret till now.

Seriously, though, we appreciate the difficulty – but if you look at the history of home computing, it tends to run in cycles. A load of 8-bit machines appear and flourish for a while; then technology jumps, and a load of 16-bitters appear.

So we'd say it's a safe bet that once the current glut of console launches is over, there'll be a quiet period. After all, the competitive market can only take so many products! Don't worry about Acme.



Claimed by Acme Consoles to contain 'the world's largest ASIC (application-specific integrated circuit)', the hydraulic bed is the centrepiece of the Lusitania console. Old-fashioned joysticks are replaced by a champagne-bottle controller; the kitchen sink is an optional add-on. See letter headed Um, Yes. . . .

ZX life

Dear TGM

With regard to Paul Stanley's letter (The Good Old Days, TGM**016**), he says 'releases on the ZX81 were always eagerly anticipated, as almost invariably they broke new ground in computing'. He then goes on to say 'what is really missing is the originality of the early days'.

Of course the early computer games were original – they could hardly fail to be, as nothing had gone before them!

Paul Stanley also says that too many games today are no more than mindless shoot-'em-ups, but it was exactly this type of game which formed the bulk of early releases (*Space Invaders, Asteroids, Galaga, Defender, Scramble* . . . the list goes on).

I, too, remember 'the good old days', and must admit that I did enjoy playing with my Atari VCS2600; but at the age of eight you're not exactly discerning. The idea that games were once far more fun to play seems to stem from feelings of nostalgia (the 'they don't make 'em like they used to' syndrome).

Now I am the privileged owner of an Amiga, and games like *Rocket Ranger* convince me that 'the good old days' weren't all that they're cracked up to be.

Jonathan Higginson, Sydney, Australia

Dear TGM

If I had owned a ZX81 I'd keep quiet about it. I cannot understand anyone trying to say that *Jet Set Willy* or *Space Invaders* on their ZX81 or Spectrum has more playability than *Starglider 2, FOFT* or even a pretty average shoot-'em-up like *Cosmic Pirate* on the 16-bits.

Now look back to the first two years of the Spectrum and C64, the prehistoric era when *Hungry Horace* and *Gulp Man* roamed the earth. If the ST and Amiga can come up with games like *Carrier Command* now, just think what they'll be like in a couple of years' time.

Sam Flanagan, Horncastle, Lincolnshire

It seems futile to argue whether yesterday was better than today; surely the point is to find what's best today.

As posh papers say, 'this correspondence is now closed'. Till the next letter arrives, that is . . .

Revenge of the killer viruses

Dear TGM

Your feature on computer viruses (Back Bytes, TGM**016**) was interesting and informative, but don't the crackers of games know what they're doing to themselves? They are putting themselves out of business (if it can be called that)!

I have about 15 pirate disks for my Amiga, and till recently I never worried about viruses, but last week my best original, *Operation Wolf*, mysteriously failed to load. I took it to my Amiga-whiz friend, who typed in a few CLI commands and told me I had got the LSD virus.

My £25 game was ruined, all because I slid the write-protect tab off so it would save my high scores. So now I rarely get a pirate game for fear of another virus attack. You should be pleased with viruses being antipiracy.

Gregory Wheeler, Portsmouth



Using pirated software always carries this risk, and of course there's no guarantee to fall back on. It serves you right!

We repeat TGM016's warning: the best way to avoid Amiga viruses is to always turn the computer off between using different pieces of software.

Inside story

Dear TGM

Thanks for producing a generally excellent mag. You may consider it strange to receive a letter from someone in my predicament, Amigas not often being a common fitting in the cells. (Even if they were, there aren't any power supplies.)

However, your mag is excellent in keeping me up-to-date in the computer world, especially in market trends and popularity of machines. To receive the latest copy of TGM is typically the highlight of my month.

CS Cooper, HM Young Offenders Institution, Portland, Dorset

Thanks for your letter – and your comments about TGM (not printed here for space reasons), which gave us some ideas.

£50 WORTH OF GAMES *MUST BE WON!*

There's £50 worth of software – *your* choice – for each month's Star Letter. Write to: Readerpage, TGM, *PO Box 10, Ludlow, Shropshire SY8 1DB.* We're receiving so many letters that it may take a while for yours to get printed, so keep your shirt on (except in the shower, that is).

The Games machine READER CLASSIFIEDS



PIRATES STAY AT SEA!

TGM will not knowingly place adverts for pirated software. In an effort to control the problem, we will not place any ad which doesn't include a full name and address. Box numbers and code names are unacceptable. Thank you for your cooperation.

WANTED

Wanted Now! Atari STFM in good condition, just computer mouse and basic software, will pay around £200. Tel: (0473) 715335 or write to Neil Dawson, 10 Dover Road, Ipswich, Suffolk IP3 8JQ. Consider all offers, please help!

FOR SALE

Amiga 1000 bargain £200! 512K, detachable keyboard, sits under your monitor. Contact Brian, 25 Shaw Drive, Sandford, Wareham, Dorset BH20 7BS or phone 092 95 54246.

Sega System, three joysticks, two games £50. Various games inc. Double Dragon, Thunder Blade, Shinobi, After Burner £9 each. Light Gun £20 or sell complete with 17 games £170. Phone Stacey 0691 652328 after 4pm.

Nintendo with Mike Tysons Punchat, Super Mario Bros £100 ono. Also Spectrum +2, £200 of software, joystick, excellent condition £110 or £200 for both. Tel: Llangennech 820536.

Atari 520 STFM for sale, excellent condition with £400 pounds of software, still boxed. Sell for £200 ono. Phone 051 526 4636.

CBM64 with 1541C disk drive and datacassette, one joystick and loads of games including Outrun, Gunship, Starglider. All in mint condition for £275. Phone Bagshot 75543 (Surrey) evenings.

Sega games system, nine games including After Burner, Penguin Land, Kensiden, Outrun, Wonder Boy, Secret Command, boxed, excellent condition, worth £260, yours for £75. Tel: (01) 541 5326 (Kingston).

Sega glasses, Gun games, Quartet, Basketball, Kenseiden, Fantasy Zone, Rescue Mission, Gangster Town, Missile Defence, Shooting Gallery, Wonder Boy 2, Alex Kidd 2. Contact: John Podd, 43 Raeburn Road, Ipswitch, Suffolk. Tel: 0473 720568.

CBM64, 1541 disk drive, MPS801 printer, cassette unit, cartridges and £1000's of software. Sell altogether for £400.00. Phone Tue to Thur after 7pm (0274) 667408 ask for Jeff.

Amiga 500, modulator, joystick and latest software (over £600 of it!) all in excellent condition and worth around £1000. Only £600 ono. Contact Simon after 5.30pm on 0842 753222. Bargain at price.

Spectrum +3, Multiface 3, mouse, £250 worth of games inc. Operation Wolf and Robocop, cassette leads, 4 blank disks, cost £700. Offers phone 3883331 (091). Also Dragon gear, printer, Shugart-compatible drive. Ideal birthday present.

Atari STFM 520, SC1224 colour monitor, 1 meg external drive, two joysticks, over 80 games, push button copier £650.00. Phone 0272 3466 after 4.30 or write to Nigel, 23 Chapel Hill, Backwell, Nr. Bristol BS19 3PR.

Amiga A500 with RAM pack, modulator and Dragons Lair, boxed, very good condition £400, No Offers. Contact: 7 Goostry Road, Bolehall, Tamworth, Staffs. B77 3NA or tel:(0827) 69789.

Atari 520 STFM for sale, mouse, leads, manuals, language disk, 1 year old, boxed, excellent condition, a bargain at £199. Phone 0923 (Watford) 39454.

Atari STFM, mouse, over £500 pounds of software inc. Falcon, Op. Wolf, Dungeon Master. All leads, boxed, year old, excellent condition. Worth over £850 pounds, sell for £350, ring 01 552 1037 ask for Grant.

128K Spectrum +2, interface, three joysticks, over £350 of games including Afterburner, Robocop etc. Loads of magazines, unwanted Xmas present. Fully guaranteed, bargain only £160.00. Telephone: 0787 75544.

C64 software for sale. Worth over £400, sell for £160. Includes Starglider, Last Ninja, Platoon etc. Contact: M.Pegg, 70 Malletts Close, Stony Stratford, Milton Keynes

Attention Spectrum +2, excellent condition, £300 worth of software includes Outrun, Gauntlet, Super Hang On, Matchday 2, Sinclair interface, all for £200 or nearest offer. Tel: 01 656 8082 after 6pm.

Nintendo and Sega for sale. Nintendo includes 2 games and the Sega has 3 games. All for the price of only £120. Tel: Scott on (0827) 69406. Can deliver if in England.

Atari ST games. All are originals and boxed, Joan of Arc, Hacker 2, Star Ray, Metrocross, Star Wars, Puffys Saga, Clever and Smart, Paint works, Music Studio, R-Type. £10 each or the lot for £90. Peacehaven 584518.

Atari 520 STFM, built in 1 meg disk drive, mouse, joystick, disk box, 20 blank disks, £500 quality original software, P.D. software, excellent condition with all manuals and six months guarantee. Only £350. Tel: (0608) 2605.

Massive Amstrad setup, 6128, col. monitor, £800 worth of software, Multiface 2, DMP2000, Speech, 2 lightpens, 1 Rom, Drum Machine, Tape Player, Stereo sound, AMX mouse, Stop Press, joystick, Worth new over £1700, perfect condition, sell for £600. Ludlow 0584 3840.

Archimedes 310, printer, colour monitor and software. Ace condition, all for £1100 ono. Ring Bristol 0272 652759 ask for Mark. Buyer collects.

Amiga 500 with £150 worth of software (originals) plus some public domain software for sale at £330 ono. Phone 652759 after 5.00pm. In Bristol (0272). Buyer collects. Ask for Paul.

Amstrad 6128, colour monitor, tape deck, printer, joystick, CPM and utils, over sixty games plus image system, GAC and F15. £350 ono. Tel.(0752) 786738. All items still boxed, vgc.

Atari 520STFM, 1MB internal drive upgrade, fast Basic cartridge, Procopy, Disector, 1st Word utilities, 18 boxed good games including Falcon and Dungeon Master. Excellent condition £400, no offers. Phone 025672 3372 from 8.30pm to 9.30pm. True Bargain!

Spectrum +2, disk drive, joystick, books, games worth £500, Specdrum, afro + latin kits. Worth over £850, will sell for £350 ono. Phone: (01) 863 5978.

CBM64, cassette deck boxed, £450 of original software e.g. Operation Wolf, Afterburner, 3 Quickshot II Turbos, 1 Quickshot IX, loads of ZZAP 64's. Worth £750, sell for £275 ono. Phone Olly (0733) 241293 after 6pm. Stilton.

LOOK HERE: CBM64C for sale in perfect condition + games. Phone: 01 940 2644, 258 Kew Road, Richmond, Surrey.

Atari 520 STFM, boxed, perfect condition with disks £250. Original ST software £5-£10 including Falcon, IK+, Operation Wolf, Starglider 2 and more! (worth £500) or computer + all software for £330. Tel: (061) 330 0571 (Manchester).

SPECTRUM +3 with Multiface 3 and over £1300 of games on disk and tape. Also double cassette deck with graphic equaliser, £400 the lot. Tel: Newcastle/Burnopfield 70719 after 4pm and ask for Michael.

ATARI ST, mouse/mat, manuals, TV modulator, 50 blank disks and lots of games including Operation Wolf, Thunderblade, Int.Soccer, Out Run and loads more. Worth well over £1000. Offers around £400. Phone 0256 29661.

Amstrad CPC464, £400 games, DMP 2160 printer, DD-1 Disk Drive, colour monitor. Sell for £450. Tel: Northampton 411758 or swap for Amiga A500 plus games, TV modulator and mouse.

Amiga A500 with ten games including Op-Wolf, IK+, TV Sports Football, Elite, Double Dragon. Phone Jason on 01 635 9437 between 6-10pm Monday to Friday and anytime on Sundays. All for £300.

Amstrad CPC6128, colour monitor, joystick, Multiface 2, magazines, 100 original games latest software desk, desk top publishing, word processor. Worth £1800, sell for £600. Please contact Andy on (061) 998 8481 anytime. Greenwood Road, 127 Benchill, Wythenshane, Manchester M22 7BD.

Commodore 64, games worth £100, datasette, joystick and Music Maker for £140 ono. Spectrum light-pen and games worth over £110, will sell for £70 ono, programming books and binders worth over £65, sell for £35 ono. Phone Andrew on 0322 28550.

Atari 520 STFM, excellent condition, one meg disk drive, 22 games, eleven disks of business software and utils., joystick, Basic reference book. Worth over £700, sell for £350 ono. Phone Lapford (03635) 200 after 7pm.

Nintendo, plus many games including Punch Out, Legend of Zelda, Metroid, Super Mario Bros and four others. All worth £314 including Konix joystick. A bargain at only £190. Call Harrogate (0423) 330042. Any offers welcome.

ST games £300 worth including Double Dragon, Operation Wolf, Victory Road, Colossus Chess X, plus more £100 ono. All boxed and with booklets, all nearly new (1-3 weeks old). For details write to Binh, 3 Queens Drive, Abbots Langley, Watford, Herts. WD5 0NQ. Be very quick.

Amstrad CPC6128 with colour monitor and disk drive, one year old, hardly used, two joysticks and over 25 disk games + mags and manual. Phone Will on 0822 833376 (Tavistock).

128K Spectrum and 48K Spectrum with Saga keyboard, printer and leads, Specdrum, mouse and Art Studio, speech synth., 2 joysticks and interface, joyball, remote joystick, tape recorder, all boxed, over 100 original games! £450. Phone (0883) 42877 evenings.

CBM128, 1541 disk drive, MPS801 printer, C2N datasette. 80 col green monitor, Superscript 128, Superbase 128, Music Maker 128, all manuals and leads, £350 the lot. Contact: 111 Barn Lane, Golborne, Warrington. Tel: (0942) 718192.

Atari 520ST, external disk drive, disk box, ten blanks, five demos, mouse and mat, 27 top games including IK+, 5 Star, Outrun, Double Dragon, manuals, joystick, Tac3. Hardly used, worth £700, under guarantee, £550 ono. Phone: 01 571 7955.

Atari STFM with £215 of software and manuals plus joystick, PD software, mouse, etc., only £280. Also Commodore 1541 disk drive and Commodore MPS 801 printer, £50 each. Phone Grant on 0505 690608 after 4 o'clock.

Sega System for sale with 5 games – Outrun, Hang On, World Soccer, Afterburner, Rocky, very good condition – still boxed, bargain – only £110 ono. Tel: (01) 650-0694 after 4.30pm.

Amiga A500 for sale! Joystick, books on 68000 etc., dustcover, Textcraft, Photon Paint, DPaint plus 14 other originals and 20 blank disks. Total over £650, sell for £350. Tel: Martyn on (0639) 884084 anytime!

Atari ST software for sale, Barbarian (S+G), Obliterator, Street Fighter,Alien Syndrome, Indiana Jones, Rampage all for £45 or each sold separately for £7.50 each. Phone anytime on (0752) 880341 ask for Myles.

FREE Spectrum 48K when you buy £330 of games, mags, interface, twin cassette radio, with all leads and manuals for £150. Tel: Mark after 7pm on (0749) 830090.

Atari 520 STFM 1 meg includes mouse, business software worth £50, games worth over £550. Still under guarantee, excellent condition, worth £700+, sell for only £330. Ring Swanley (0322) 62353 (evening) ask for Martyn.

CBM128, C2N, 1571 DD, over £1000 of software, disk boxes, Expert cartridge, dust covers and much more. Will sell for £400 ono, call Jim on 01 748 5263 after 6pm and ask for details.

C64, looking for £150 ono, magazines, printer, two tape units, joystick, books, software worth £300, freeze machine. Good condition. Price around £150. Please ring between 8.30pm to 10.00pm Monday-Friday and ask for Anthony (0753) 43363.

Sega and Spectrum 48K+, 11 games for Sega includes Double Dragon, also Light Phaser and two joysticks, 4 top games of 88 for Spectrum with interface. Worth £500, sell for £250. Phone 01 685 0277 after 5pm.

Spectrum +3, Multiface 3, joystick, 30 disks, over 200 games, tape deck, 50 mags and books. Only 7 months old. Worth £600 sell, for £160 for quick sale. Tel: Scott on (0563) 43190 after 4.30pm.

Sega Master System with Light Phaser, both still boxed, excellent condition with over £750 worth of games, everything worth £884. It's a real bargain at just £500 ono. Phone Hastings 444698 and ask for Jason.

JVC MSX HC-7 GB computer 64K and cassette recorder, joystick and 15 games including Kings Valley II, Maze of Galious, Road, Fighter, Penguin Adventure, Q-Bert, Nemesis, Golf, Football £180 ono. Tel: F. Eaton, 0533 771381.

CBM 64, plus disk drive and printer software. Ring for more information (09274) 26161 Ext.402 between 7pm and 9pm. £350.

Atari 520ST, plus Atari colour monitor and over £330 software/games including Defender of the Crown and Flight Simulator Two. Also additional books/magazines. Little used. Worth over £970 new, sell for £625 ono. Phone: 01 979 0735 anytime.

Software for sale (any system), 48hr delivery service. Any current game available, simply deduct 28% off RRP. Seno your orders to S. Williams, 24 Cenarth Drive, Cwmbran, Aberdore, Mid Glamorgan CF44 0NH. (Does not include Sega/Nintendo).

Amstrad CPC464, green monitor, modulator for colour TV, good condition, about £100's worth of gmaes, a few books etc. Quick sale £130. Tel: (03706) 8804. Not during daytime, E.
Essex.

CBM 128, 1541 disk drive, 50 disks, C2N, freeze frame, Laser cartridge, manuals. VGC, £200. Upgrading to Amiga. Phone 01 337 4243.

SEGA console, Speedking joystick, light phaser, games: Afterburner, Double Dragon, Enduro Racer, Shinobi, Wonderboy, Ninja, etc. Sports: American Football, Baseball, Basketball, Golf, Tennis. Boxed, vgc, worth £550. Bargain £250 ono. Tel: Keith (01) 508 4005 (Essex).

SEGA, complete with 3D glasses, light phaser, joystick, 13 games including Outrun, Afterburner, Golf, Shinobi, Thunderblade, Zillian etc. Worth around £450, sell for £350 ono. Tel: (0782) 280681 after 6.30pm. N.B. Everything is boxed.

Amiga 500, approx 9 months old, plus modulator, games, 2 joysticks and mags. Worth £550, will sell for £340 or nearest offer. Phone 0494 715803 after 5pm and ask for Jason.

SEGA console, joypads, dust cover, control stick, nine games including Outrun, World Soccer and Fantasy Zone. Worth over £300, sell for only £160. Send SAE for complete list: Chris Jackman, 3 Albion Terrace, Lexham Road, Litcham, Kings Lynn, Norfolk PE32 2QQ.

Atari 520STFM with over £1200 worth of games, boxed with manuals and ten months guarantee, only £380. All games originals. Phone Jason on 01 635 9437 between 5-11p.m. Monday to Friday and anytime Sunday. Offer includes TV.

45 CBM64 games on tape £80 ono. Also 11 disk games £40 ono. Sell with tapes for £100 ono. Worth £519.35, good condition. For list: C.Shevlin, 4 Lingmoor Close, Doncaster, S. Yorkshire DN4 9NF. Tel: (0302) 852531.

SEGA games, send SAE for list to Emma at: Garden Lodge Studio, Greenwell Road, Alnwick NE66 1PR, includes Thunderblade, Black Belt, Ghost House, Soccer, Zillion, Miracle Warriors, Alien Syndrome and more.

Virus and Dungeon Master for the Atari ST, with some maps for Dungeon Master £10 each or £16 for both. Also Optima radio controlled car for £100. Phone Tom on Norwich (0603) 868878.

CBM 64, data recorder, mags and games including Stealth Fighter, Operation Wolf, Armalyte, Bombuzal. Also extras, sell for £120, no offers. Please phone Junior after 6pm anyday on (021) 444 5745.

CBM64, disk drive, C2N, modem, joystick, 100's of games, Expert Cartridge, 100 mags, disk box, £250 ono, or swap for Amiga with cash difference, or maybe ST – Ring 0482 859925 after 5.30pm (please) (ta)!

Atari 520 STFM with half meg internal drive and one meg external drive, games, demos, utilities, magazines and blank disks. Sell for £270. Phone Lee on 0763 246068.

Amstrad CPC 464, green screen monitor, with new Quick shot 2 Turbo joysticks, also over £200 of games including Dragon Ninja, 1943, Renegade, Gryzor etc. Boxed with instructions, only £180 ono. Telephone (02357) 67028.

Atari 1040 STFM, 0.5 meg internal drive, 1 meg RAM, modulator, A/B boot switch, 10 months guarantee left, 30 games, Degas Elite, 1st Word plus and lots of other utilities, 30 mags. All worth £800, sell for £380! Phone Chris after 6pm on (01) 948 0319.

Nintendo System, boxed, with three games, Metroid, Legend of Zelda and Pro-am. All for £55, or sell separately. Phone (0904) 400318 after 4pm or write to 3 Chaumont Way, Stockton-on-Forest, York YO3 9TX.

Atari 520 STFM, joysticks, £500 worth of software and blank disks, only £325. Phone Mark on Lincoln 513042.

PEN PALS

Amiga freak requires penpals to swap hints, tips, etc. All letters answered, write now to: Chris, 20 Bagley End, Paston, Peterborough, Cambs. PE4 6DY.

Amiga owners need contacts. Reply guaranteed. Write now to: Nick, 9 Caroline Close, Keynsham, Bristol BS18 2LF. Tel: (0272) 867346 or ROB, 6B Farleigh Road, Keynsham, Bristol BS18 2QS. Tel: (0272) 863718.

C64 owner wants pen pals worldwide to exchange hints, solutions etc. I will answer all letters the same day with 100% response guaranteed. Write to: Michael King, 31 Roycroft Ave, Millpark, Melbourne 3082, Victoria, Australia.

USER GROUPS

Amiga pals wanted. Beginners helped if postage paid. Fast reply guaranteed 100%. Contact: Rich, 21 Carter Street, Burnley, Lancs UK. Hiya Vege, have you lost my address?

ST USER would like world wide contacts to exchange hints, tips, etc. Hardware, software. Write to: John Elmore, 4872 Serra ct, NE Salem, Oregon 97305, U.S.A.

C64/128 users! Want to know how experts work out pokes etc and win cash & software prizes in magazines? Then send SAE+£1 to: Jason Haymer, (TGM), 98 Histon Road, Cottenham, Cambridge CB4 4UD.

FANZINES

New ST and Amiga fanzine called **SECTOR 16**, here use our digitising service and buy a sound amplifier, send 50p and stamp to us at: 160 Hollow Way, Cowley, Oxford OX4 2NL. Phone: (0865) 777146 9am-4pm.

MISCELLANEOUS

See Fractals on your ST. See the Mandelbrot set enlarged 1 million times. Send £3.50 for disk to 89 Bramley Garth, Appletree Village, York YO3 0PQ. Make cheques or PO payable to Nazar Aziz.

Football Managers wanted for computer moderated PBM league and cup games, transfers, tactics, Internationals, fortnightly turns £10 for season. Write to The Dugout, 52 Kirkhill Terrace, Broxburn, West Lothian, Scotland or phone 0506 852315 NOW!

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CONTROVERSY

MSX: the light that failed?

MSX may not rule OK, but it's still the best, says TGM reader Craig Bell

It's often treated as just a big joke. It's defended nearly to the death by its users, but mocked by the superior-feeling owners of STs and Amigas. These arguments fill up the letters pages of half a dozen magazines, but the machine doesn't have a single UK publication of its own. In fact, for a computer with so few users it's like the mouse that roared; the dispute over MSX has raged since its birth six years ago.

Is it the perfect micro, let down by the foolishness of software houses and the public, or was the establishment of an international MSX standard an unrealistic ambition, the biggest mistake we ever made?

The MSX story really began with the efforts of one man: Kazuhiko 'Kay' Nishi, the so-called 'Mr MSX'. In Japan, Nishi and a few friends ran a small publication called *ASCII*, and though he was still at university he incorporated a company with the same name. The following year he visited Microsoft, developers of an important BASIC, in Seattle and realised how far behind the West Japan was in computer hardware and software – it *was* then, of course.

After Nishi decided to import American software to Japan, another trip to Microsoft's west coast headquarters in 1978 saw the formation of ASCII Microsoft; his company later had exclusive rights to sell Microsoft products in the Far East. Nishi was still only in his early twenties.

Meanwhile, the American arm of Microsoft grew from what was, in the late Seventies, a relatively small company to a very large and profitable firm – what with designing the MS-DOS operating system, and eventually GW-BASIC, for the IBM PC in the early Eighties, how could they possibly lose?

The first spark of life for MSX started back in 1982, and came from two American businessmen, Harry Fox and Alex Weiss. They decided to set up a microcomputer company called Spectravideo, and since they were working from a base in Hong Kong they chose to have the machines' hardware specification done there.

But they needed a BASIC, so who did they turn to? Microsoft, of course, and after several months of correspondence they finally received a reply telling them they should contact ASCII, who were handling the American firm's Far Eastern affairs.

This led to the involvement of Kay Nishi, and after several negotiations ASCII Microsoft agreed to do Spectravideo's BASIC.

By winter 1982/83 the machines were finished; the names of Spectravideo's computers were the SVI 328 and 728. But sales did not do as well as hoped.

Nishi obviously understood the potential of the Spectravideo range, but he also saw the state of the microcomputer market: there was no standard, no compatibility between different machines. He predicted that Japanese electronics manufacturers would be interested in creating a standard, so he approached firms such as Sony, Toshiba and Panasonic in 1982.

They, and about a dozen other companies, jumped at the chance – and in 1983 Nishi announced the MSX standard.

Heroic failure

Well, that's roughly how MSX started, but since then we've seen things come and go. MSX at one time had three UK dedicated publications on the newsstands, but in mid-1986 we saw the demise of the last MSX publication, *MSX Computing*, thanks to a lack of advertising.

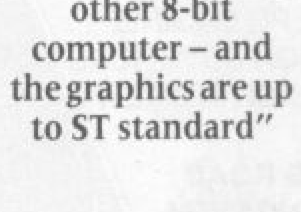
But of course this was after Sony, Toshiba and companions pulled out of the UK MSX market.

Many believe the so-called failure of MSX was due to its technical specification. But this argument can easily be dismissed, because at that time the Spectrum was flourishing, and Amstrad had just released their new CPC range; MSX was a far better machine than any other 8-bit computer then, and still is.

There were other reasons for MSX's poor sales, not least the price of the original machines – would you buy a disk drive that cost more than a computer? (Sony's MSX disk drive retailed at £345, while their MSX Hit-Bit machine cost £300.)

But all said and done, no-one in particular is to blame for what happened to MSX.

In late 1985 the MSX-II was launched in Japan, but by that time MSX was far behind the Spectrum, C64 and CPC. The manufacturers must have realised even then that the MSX did not have much of a chance against these machines, and the up-and-coming 16-bit micros – otherwise they would have launched the MSX-II in the UK.



"MSX is a far better machine than any other 8-bit computer – and the graphics are up to ST standard"

Till last year, you couldn't have bought an MSX-II in Britain. This changed when a few MSX retailers started selling them, and now quite a few are in use. There aren't enough to bring any support from software houses, but Konami do supply a few titles here and there. (Incidentally, if you've never seen an MSX-II game you may be quite shocked when you do; the graphics are up to the standard of the ST, if not better, though it's a 'humble' 8-bit.)

The latest positive news for the MSX user is the announcement that an advanced MSX-II, the MSX-II+, is to be officially released in Europe (TGM**016**). Its specifications include 19,268 colours (no, it's not a typo), a maximum bitmapped screen resolution of 512x424 (this was previously only available for the MSX-II with a special adaptor, but now comes as standard), Yamaha six-channel FM sound chip, MSX BASIC 3.0, and a Z80B CPU running at 6MHz.

As to this machine being officially released in the UK, well, that's a different matter – but again, we should see some MSX retailers stocking them. An MSX-II+ with digitiser is expected to cost £520-£550 in Holland, but I doubt this necessarily represents a true UK price.

Let's just hope that a few people – software houses, retailers, magazines – see the light.

■ If you're a struggling MSX user, all alone with no-one to turn to for help, write to Craig Bell c/o TGM - he'll be more than glad to give help and assistance. Please send an SAE. Don't phone, because he doesn't work at the office!

For information on MSX software, contact the Konami Software Club: *17 Bowden Hill, Newton Abbot, Devon TQ12 1BH* ☎ (0626) 68611.

Micro martyrdom: MSX users believed they were right, but they often got burned by the system's poor support



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UNCLE MEL'S TRIVIA QUIZ

1) Spot the odd one out: the Hungarian embassy, *FOFT*, eggs.

2) True or false? Digital audio tape (DAT) cassettes run faster than analogue cassettes.

3) What result can you get by using a radio microphone with a camcorder?

4) Within ten years, when did the computer first appear in a science-fiction film?

5) What do the following acronyms stand for? *a)* LAN, *b) SEUCK*, *c)* GURPS, *d)* RISC.

6) What is most effective in cleaning the pins of a dot-matrix printer? *a)* A paperclip, *b)* 100%-proof vodka, *c)* gerbil excrement.

7) What have *Barbarian*, *Rocket Ranger* and *Vixen* got in common?

8) What is the DEC (Digital Equipment Corp.) equivalent of ASCII code B ACK?

9) True or false? Bug Byte, First Media, Mattel, Olivetti, Toshiba and Activision are all listed in the phone book with the Satanic number 666.

10) In the movie *Alien*, who was Mother?

11) The lyrics 'get a pocket computer, try to do what you used to do' appeared in *Picture This*. Who performed it?

12) What did Martin Caidin's novel *Cyborg* inspire in 1973?

13) In which computer game do Tina Turnoff, Mince, Rick Ghastley and String appear?

14) What's the difference between Clive Sinclair and his bride-to-be Bernadette Tynan?

15) What's the difference between a fighting cock and most business software?

16) Who said 'science without religion is lame, religion without science is blind'?

17) Which games are in these condemned foods: TRYPE, PO LOO FART WINE, DEEP BALLS?

18) Which computer game links Jack Nicholson and Cesar Romero?

19) Is Ring Pursuit *a)* the queue to marry Prince Edward, *b)* illegal in Alabama, *c)* a cosmic slalom?

20) When was the CD-ROM first dreamed of: 1945, 1965 or 1985?



Feeling the Amstrad effect: pop star Blondie. See question 11.

Diabolical: Activision's Rod Cousens. See question 9.

ANSWERS

1) None, they've all got bugs.
2) False – they run almost six times more slowly, at 8.15mm per second.
3) Six months in jail or a £2,000 fine – it's illegal!
4) 1915, in *The Black Box*.
5) *a)* local-area network, *b) Shoot-'Em-Up Construction Kit*, *c)* Generic Universal Roleplaying System, *d)* reduced instruction set computing.
6) Hic . . .
7) They've all been banned in West Germany.
8) 66 6.
9) True – the little devils!
10) The spaceship's onboard computer.
11) Blondie.
12) *Six Million Dollar Man*.
13) *Rock Star Ate My Hamster* (Code Masters).
14) One's half a sage, the other's half his age.
15) One clucks defiance, the other f***s the clients.
16) Albert Einstein, 1950.
17) *R-Type*, *Operation Wolf*, *Speedball*.
18) *Batman* – both actors play the Joker.
19) *c)* The first event in *Purple Saturn Day* (Ere Informatique).
20) 1945, by Vannevar Bush.

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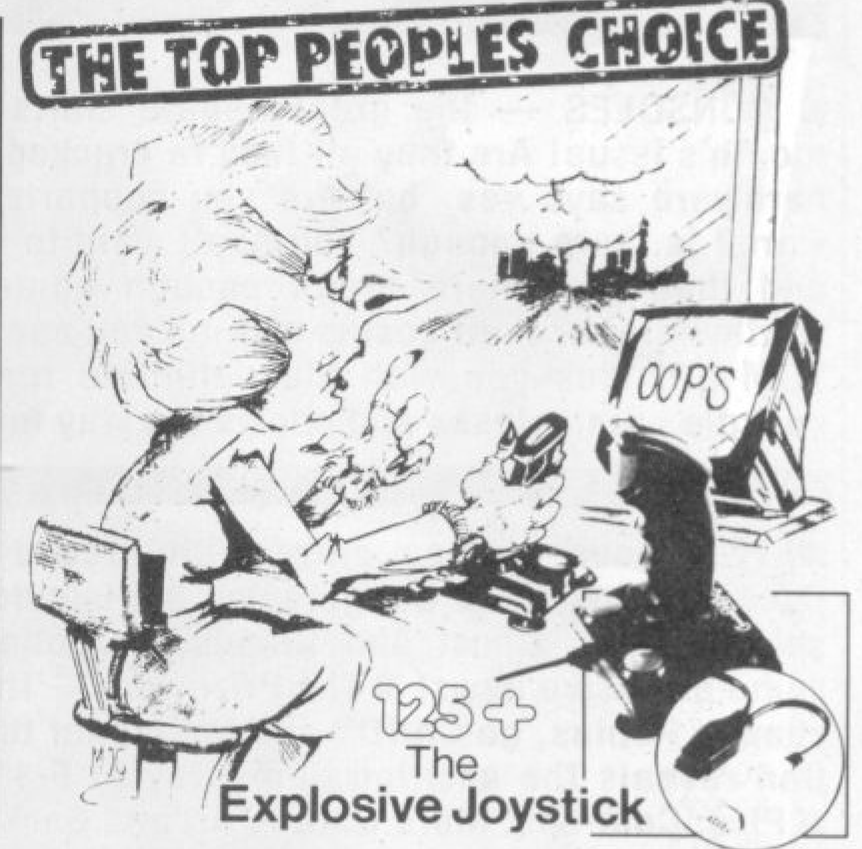


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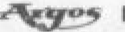
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The Games machine

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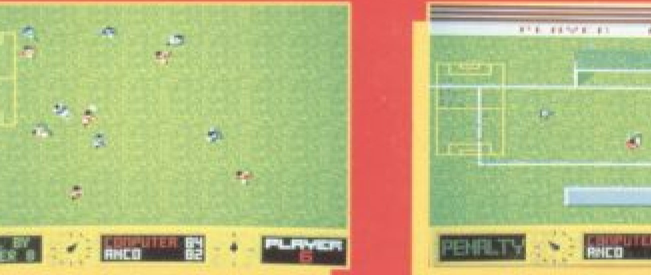
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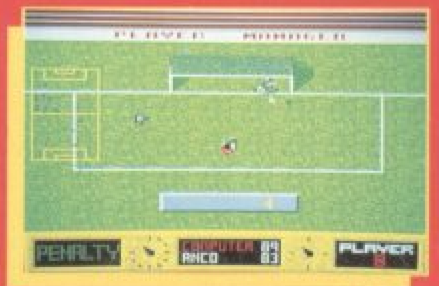
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